

ARMORED CONCRETE

and

STANDARD CONSTRUCTION CASTINGS

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CATALOG NO. 109



THE CONSTRUCTION CASTINGS CORPORATION
THE ARMORED CONCRETE CORPORATION
F L O C K H A R T F O U N D R Y C O M P A N Y

NEWARK, N. J.

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THE CONSTRUCTION CASTINGS CORPORATION

THE ARMORED CONCRETE CORPORATION

F L O C K H A R T F O U N D R Y C O M P A N Y

ARMORED CONCRETE

A Revolutionary Type of Construction Against the Destructive Factors of IMPACT • ABRASION • CORROSION

FOR USE IN CONSTRUCTING

Curbs
Driveways
Edges of Pavement
Traffic Markers

Wheel Guards
Loading Platforms
Railway Platforms
Surbases

Doorways
Column Guards
Wainscoting
Trench Frames

ARMORED CONCRETE is concrete with the exposed vertical surfaces armored with gray cast iron. This armor is bonded to the concrete in such a manner that no part of it can vibrate in the slightest degree. Consequently there can be no fracture of the iron. Since cast iron is substantially incompressible the force of an impact is so widely distributed that the concrete is undamaged. The resistance of the cast iron element to abrasion and corrosion is evident. The coefficients of expansion of cast iron and concrete are for all practical purposes identical so that the armored concrete is unaffected by variations of temperature.

WHY CAST IRON IS USED

Concrete cannot withstand abrasion or impact without surface damage. Steel shapes have been long used in an effort to protect concrete from impact and abrasion, but because steel is flexible it transmits impacts directly into the concrete, thereby breaking down the concrete.

Cast iron is markedly superior to steel from the standpoint of abrasion, corrosion and facility of shaping. Its single fault has been that it failed under impact. This difficulty is entirely eliminated by the Armored Concrete system of construction which makes cast iron the perfect armoring material.

ARMORED CONCRETE HAS BEEN ADEQUATELY TESTED

In 1924 initial Armored Concrete installations were made at selected points in Metropolitan New York where they would be subjected to the most severe conditions of impact and abrasion. Locations were purposively selected which would subject the construction to the most grueling punishment. Not one failure occurred.

Since then hundreds of Armored Concrete installations have been made, in cases where other types of construction have failed, and they have withstood in all instances the double test of time and performance.

AVAILABILITY

On the following pages are described the more common types of Armored Concrete construction. Because cast iron can be cast into the most complex shapes, Armored Concrete can be adapted to many situations not described there. The Engineering Department of the Armored Concrete Corporation is prepared to make detailed recommendations covering all phases and application of its products. Estimates will be prepared without obligation.

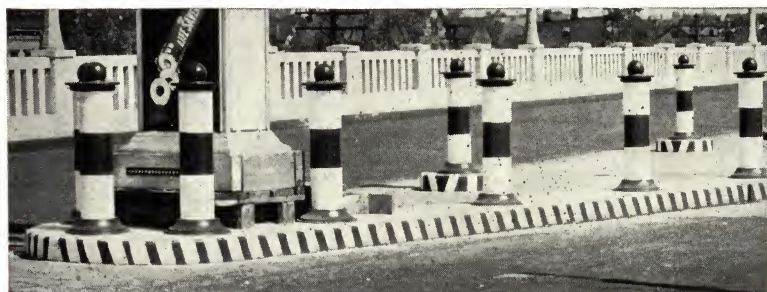
The composite cast iron and concrete structure are both protected by U. S. letters patent No. 1798929.



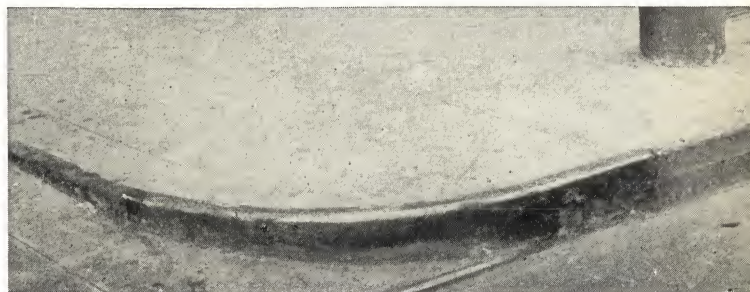
Cast Iron Components before Cove Was Poured,
Pennsylvania Railroad Station, Newark, N. J.



Armored Concrete Curb at Toll Booth, New Jersey
Approach of Holland Tunnel, N. Y. C.



Armored Concrete Traffic Island at Jersey City Approach to
Holland Tunnel, N. Y. C.



Armored Concrete Drop Curb at L. Bamberger and Co.,
Newark, N. J.

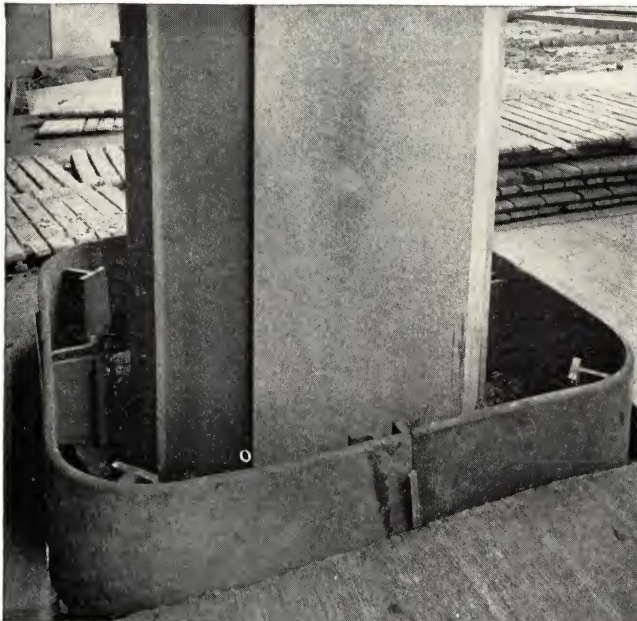
13
52



Armored Concrete Curb Inlet, L. Bamberger & Co., Newark, N. J.

CHARACTERISTICS OF ARMORED CONCRETE

1. **IMPACT RESISTANCE**—Armored Concrete is the only commercially known structure that resists impacts perfectly.
2. **ABRASION RESISTANCE**—All surfaces subject to abrasion are protected by the cast iron component. The performance of cast iron under abrasion is evident.
3. **CORROSION RESISTANCE**—The corrosion of cast iron as used in Armored Concrete is negligible.
4. **VARIATION OF TEMPERATURE**—The coefficients of expansion of cast iron and concrete are so very slightly different that Armored Concrete is not damaged by temperature variations.
5. **FIRE RESISTANCE**—The cast iron prevents Armored Concrete from being damaged by fire.
6. **ELIMINATION OF FORMS**—When Armored Concrete is used much form work is eliminated. This greatly simplifies construction and reduces costs.
7. **MAINTENANCE**—With Armored Concrete maintenance costs are nil.
8. **APPEARANCE**—Armored Concrete is exceptionally pleasing in appearance, the cast iron component being hardly detectable. The cast iron looks like gun metal.



(Upper) Cast Iron Components before Pouring Concrete, Pennsylvania Railroad Station, Newark, N. J.



(Lower) Armored Concrete Curb at Exit of Holland Tunnel, N. Y. C.



Armored Concrete Curb at Jersey City Entrance of Holland Tunnel, N. Y. C.



Armored Concrete Curb at U. S. Military Academy, West Point, N. Y.

SOME REPRESENTATIVE INSTALLATIONS

- | | |
|---------------------------------|----------------------------|
| Port of New York Authority | Holland Tunnel Approach |
| Port of New York Authority | Inland Terminal |
| U. S. Government | U. S. Military Academy |
| Pennsylvania R. R. Co. | Newark Station |
| N. Y. Central R. R. Co. | St. John's Park Terminal |
| N. Y. Central R. R. Co. | Grand Central Terminal |
| New York Dock Dept. | Piers 88—90—92 |
| Pennsylvania R. R. Co. | Pier F |
| Western Electric Co. | Industrial Plant |
| General Electric Co. | Industrial Plant |
| Sheffield Farms Co. | Milk Depots |
| Borden's Farm Product Co., Inc. | Milk Depots |
| Prudential Insurance Co. | Office Building |
| L. Bamberger & Co. | Department Store |
| Daniel Reeves | Warehouse |
| City of Mt. Vernon, N. Y. | 4000 ft. of Curb |
| Knickerbocker Ice Co. | Industrial Plant |
| City of Newark, N. J. | Several Hundred Corners |
| Continental Can Co., Inc. | Industrial Plants |
| City of Chicago | Safety Islands |
| Tri-Borough Bridge, N. Y. C. | Safety Islands |
| Henry Hudson Parkway, N. Y. C. | Toll Booth Islands |
| Baltimore and Ohio R. R. Co. | Passenger Station Platform |
| Panama Canal | Loading Platforms |
| Port of New York Authority | Lincoln Tunnel Approach |



Armored Concrete Curb at Inland Terminal Number 1, Port of New York Authority, N. Y. C.



(Above) Loading Platform, New York Central Railroad, New York City



(Right) Wheel Guards at Tuscan School, Maplewood, N. J.



Armored Concrete Monolithic Sidewalk and Curb, Mt. Vernon, N. Y.

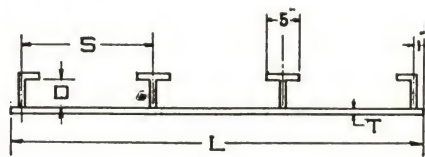
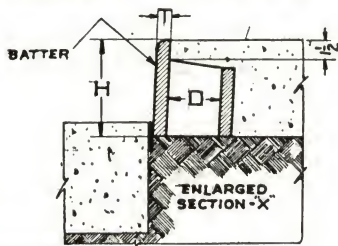
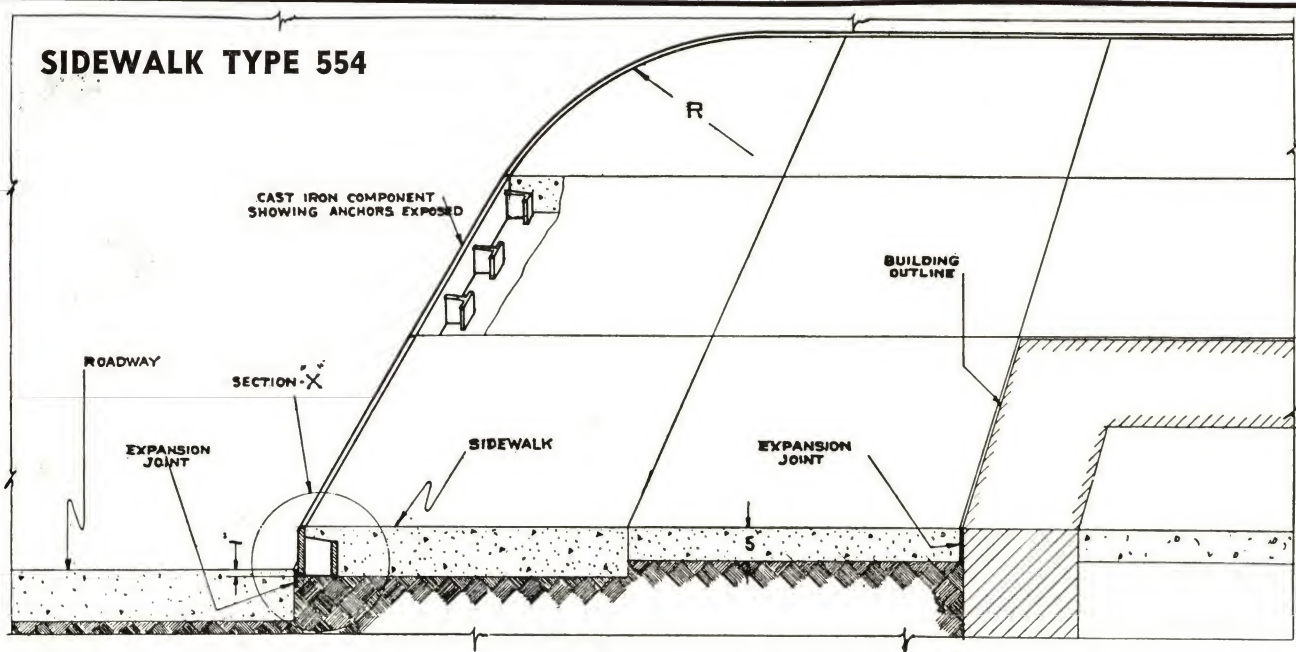


Armored Concrete Doorway Guard, Borden's Farm Products Co., Long Island City, N. Y.

ARMORED CONCRETE SIDEWALK AND CURB

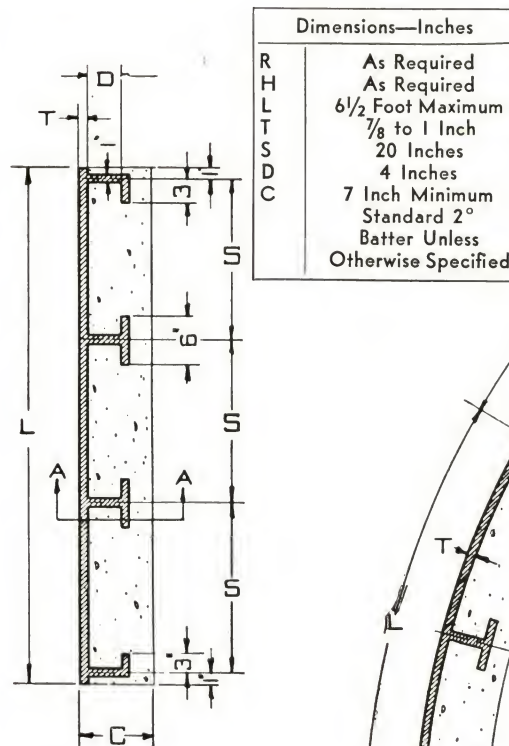
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SIDEWALK TYPE 554

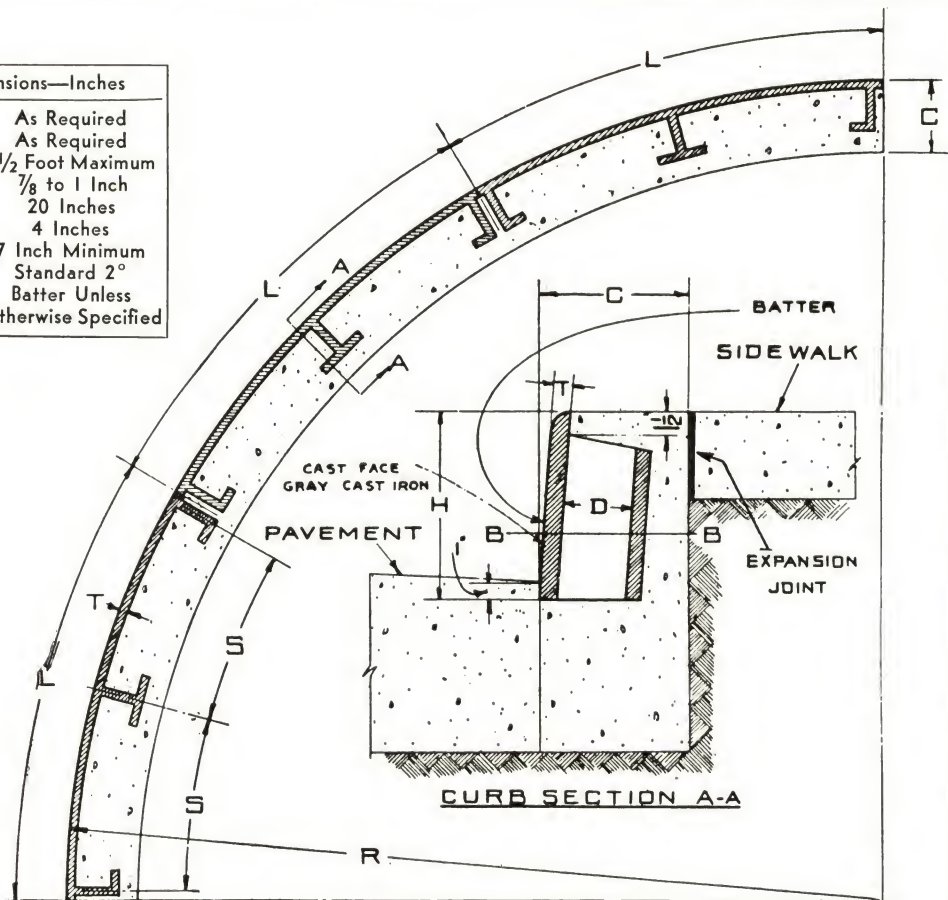


Dimensions—Inches		Dimensions—Inches	
H	As Required	R	As Required
L	6 1/2 Feet Maximum		Standard 2°
T	3/4 to 7/8 Inches		Batter Unless
S	18 Inches Maximum		Otherwise
D	4 Inches		Specified

CURB TYPE 520



SECTION B-B



CURB SECTION A-A

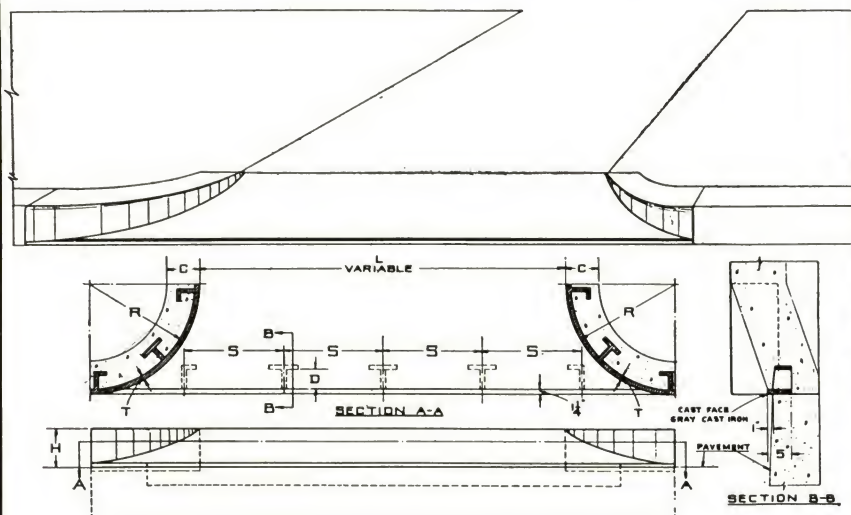
6

ARMORED CONCRETE

DROP CURB LOADING PLATFORM

13

52

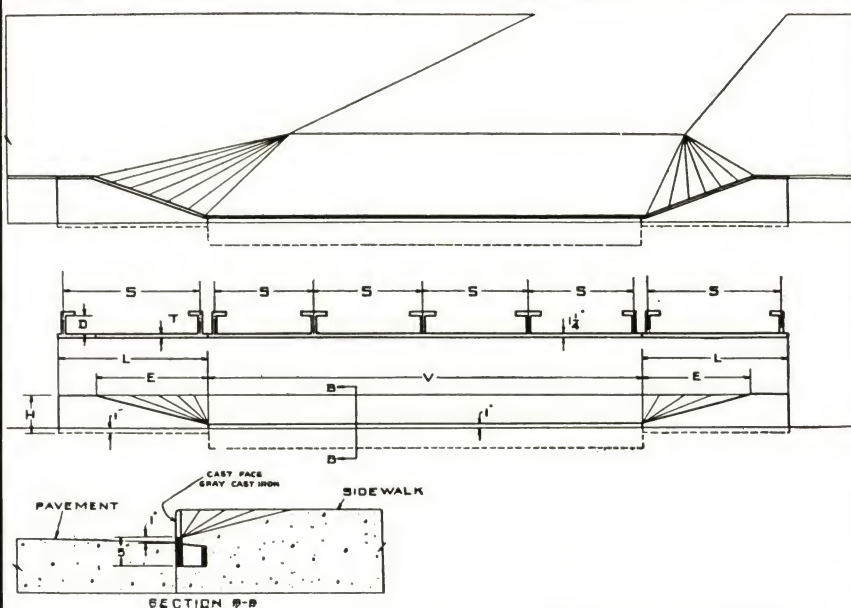
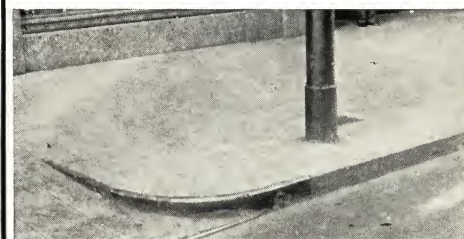


DROP CURB "TYPE A"

No. 521

DIMENSIONS—INCHES

R	12, 18, 24, 30 and 36 Inches
H	6, 8, 10 and 12 Inches
T	$\frac{7}{8}$ to 1 Inch
S	20 Inches
D	5 Inches
C	8 Inches
L	As Required
Batter	$\frac{1}{2}$ to 8 Inches



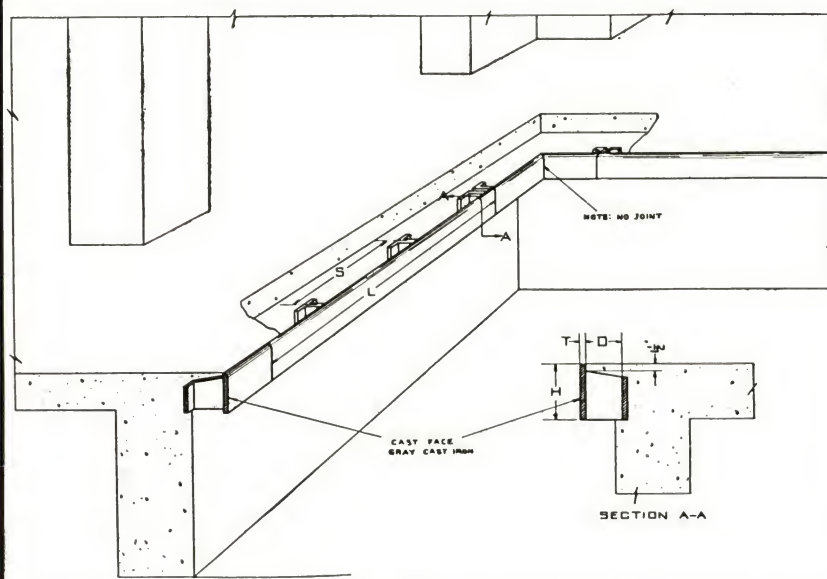
DROP CURB "TYPE B"

No. 523

DIMENSIONS—INCHES

H	6, 8, 10 and 12 Inches
T	$\frac{7}{8}$ to 1 Inch
E	18, 24 and 30 Inches
L	As Required
V	Variable
D	4 Inches
S	20 Inches

This is an alternate type of drop curb to No. 521 shown above.



LOADING PLATFORM

No. 525

DIMENSIONS—INCHES

H	6, 8, 10 and 12 Inches
T	$\frac{7}{8}$ to 1 Inch
S	20 Inches
D	6 Inches Minimum
L	As Required



7

ARMORED CONCRETE LOADING PLATFORM AND DOORWAY GUARD

13
52

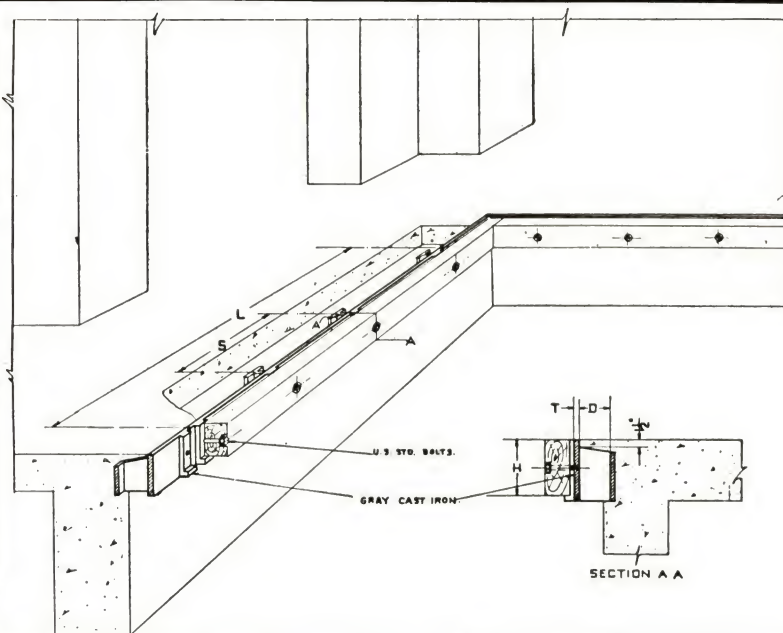
LOADING PLATFORM WITH WOOD BUMPER

No. 536

DIMENSIONS—INCHES

H	6, 8, 10 and 12 Inches
T	$\frac{7}{8}$ to 1 Inch
S	20 Inches
D	6 Inches Minimum
L	As Required

In this type provision is made for a renewable wooden bumper to prevent injury to vehicles.

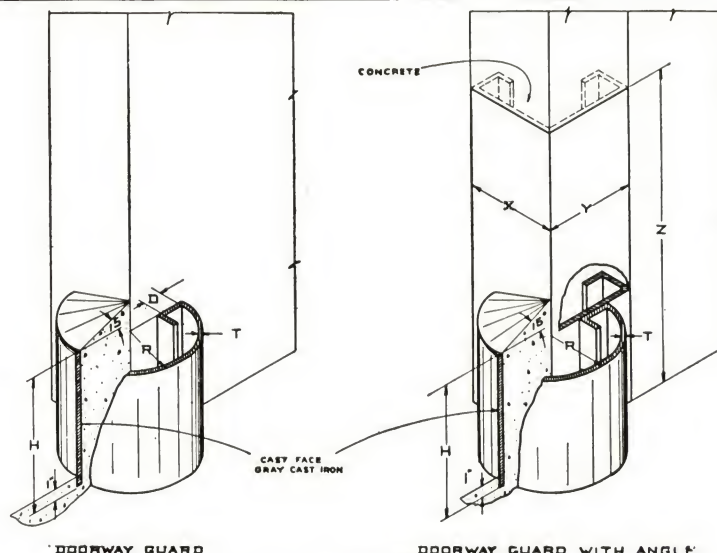
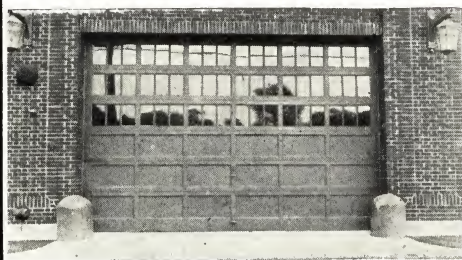


DOORWAY GUARD

No. 532

DIMENSIONS—INCHES

R	8 and 12 Inches
H	8, 16, and 24 Inches
T	1 Inch
S	20 Inches
D	4 Inches
C	8 Inches Minimum
X	6, 8, 10 and 12 Inches
Y	6, 8, 10 and 12 Inches
Z	2, 3, 4, 5, 6 and 7 Feet

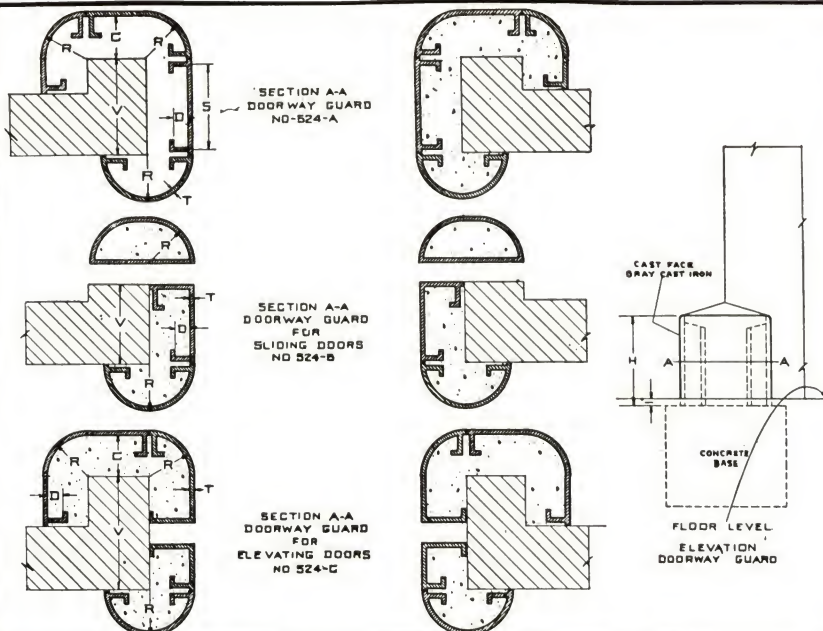


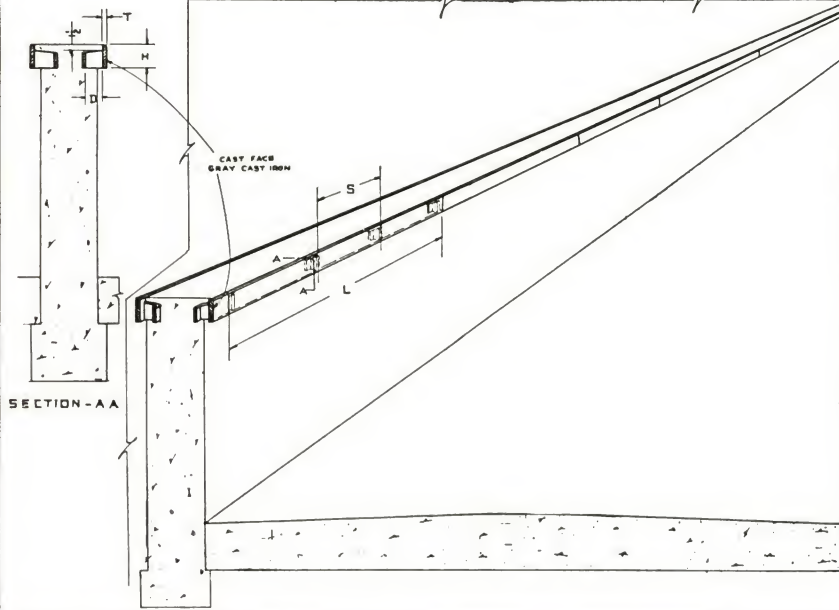
DOORWAY GUARD

No. 524

DIMENSIONS—INCHES

R	8 and 12 Inches
H	8, 16 and 24 Inches
T	$\frac{7}{8}$ to 1 Inch
S	20 Inches
D	4 Inches
C	7 Inches Minimum
V	Variable





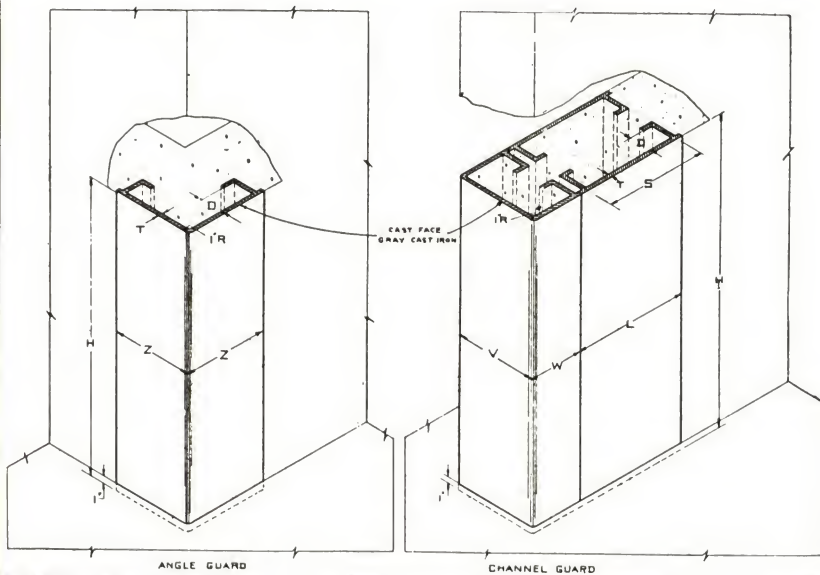
COPING GUARD

TYPE No. 112

DIMENSIONS—INCHES

H	4 and 5 Inches
T	$\frac{7}{8}$ to 1 Inch
S	20 Inches
D	5 Inches Minimum
L	As Required

This is the only known successful type of cope for walls exposed to traffic.

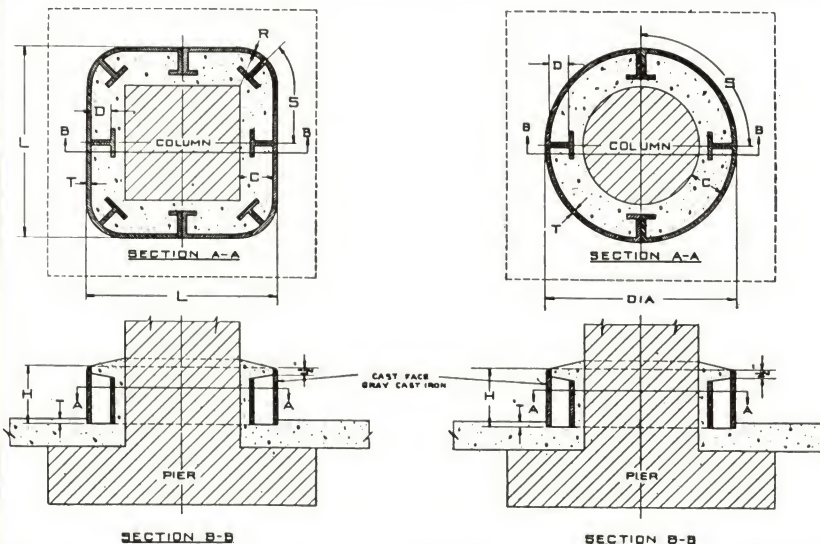


WALL CORNER and END PROTECTION

No. 531

DIMENSIONS—INCHES

H	2, 3, 4, 5, 6 and 7 Inches
Z	6, 8, 10 and 12 Inches
V	Variable
W	12 Inches
L	Variable
T	1 Inch
S	20 Inches Maximum
D	4 Inches



COLUMN GUARDS CIRCULAR and SQUARE

No. 522

DIMENSIONS—INCHES

RECTANGULAR

R	8 and 12 Inches
H	8, 16 and 24 Inches
T	$\frac{7}{8}$ to 1 Inch
L	As Required
S	20 Inches
D	4 Inches
C	7 Inches Minimum

CIRCULAR

Dia.	As Required
H	8, 16 and 24 Inches
T	$\frac{7}{8}$ to 1 Inch
S	20 Inches
D	4 Inches
C	7 Inches

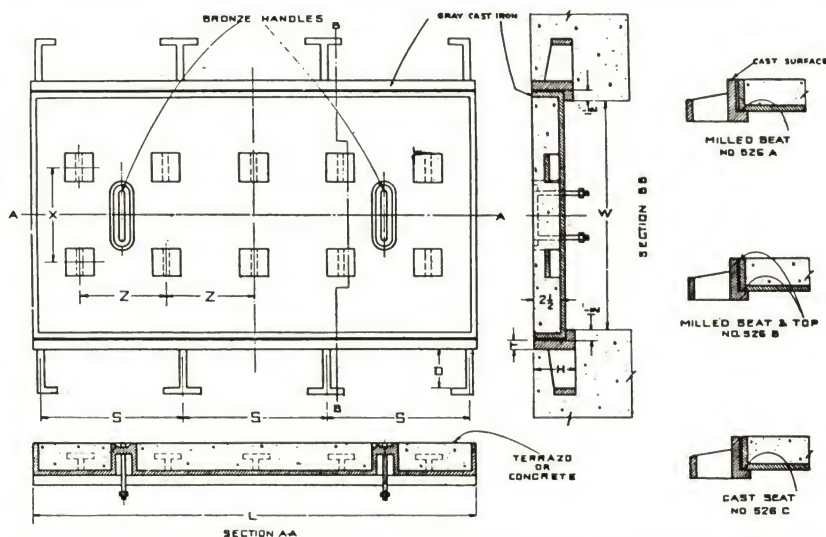
TRENCH FRAMES and COVERS For CONCRETE or TERRAZZO FILL

No. 526

DIMENSIONS—INCHES

W	6, 12, 18 and 24 inches
L	36 Inches
H	4 1/2 Inches
T	1/2 Inch
S	20 Inches Maximum
D	4 Inches
X	10 Inches
Z	10 Inches

The use of cast iron is especially indicated for covers which are to be filled with concrete or terrazzo as the rigidity of cast iron prevents cracking of the fill.



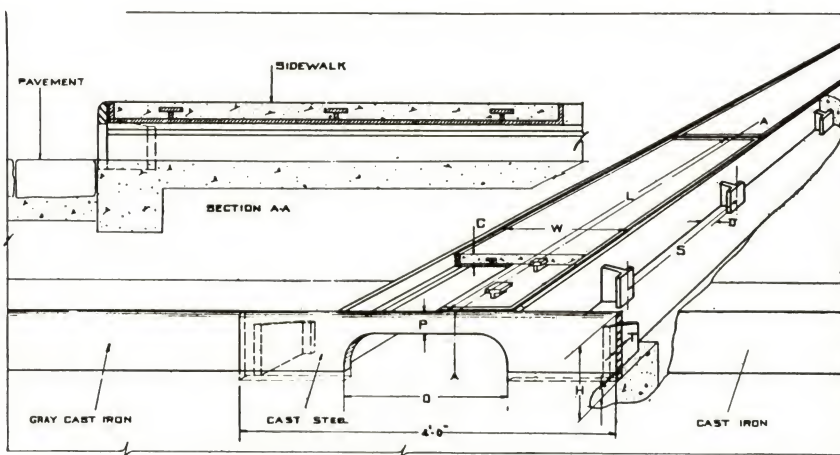
LEADER DRAIN UNDER SIDEWALK

No. 542

DIMENSIONS—INCHES

O	6, 8, 10 and 12 Inches
P	2 1/2 Inches Minimum
H	6, 8, 10 and 12 Inches
T	1 Inch
W	6, 8, 10 and 12 Inches
L	4 1/2 Foot Maximum
C	2 1/2 Inches
S	20 Inches
D	5 Inches

Note that the curb section is made of cast steel owing to the necessarily fragile design.



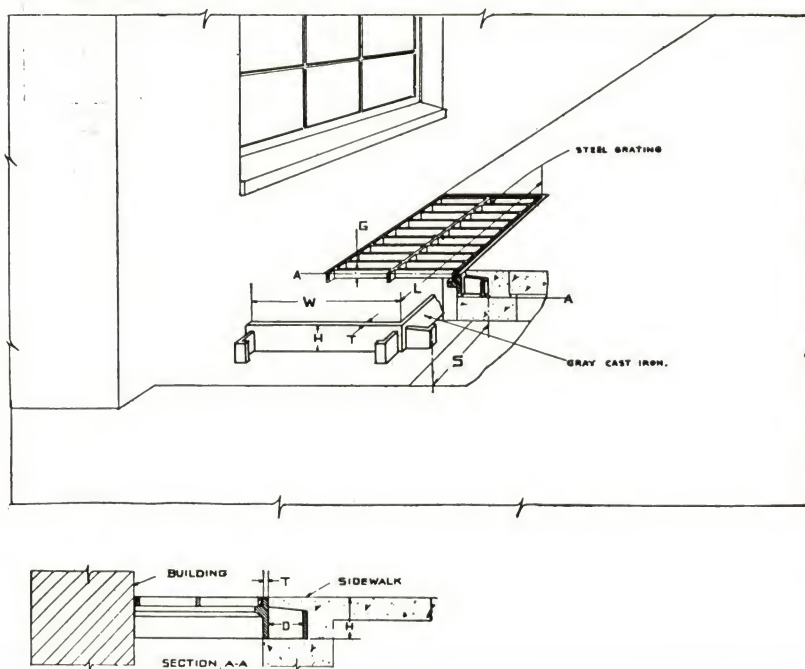
SIDEWALK FRAMES AND GRATINGS

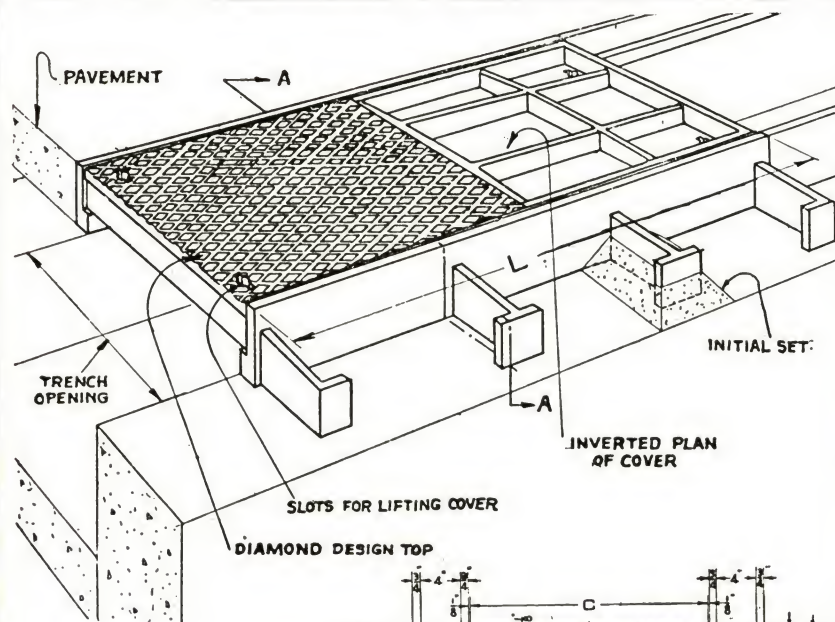
No. 541

DIMENSIONS—INCHES

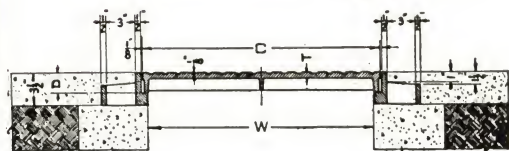
L	As Required
W	As Required
H	4 1/2 Inches
T	5/8 Inches
S	20 Inches Maximum
D	4 Inches
G	As Required

The advantage of this type of construction is that the cast iron frame is not destroyed by corrosion.

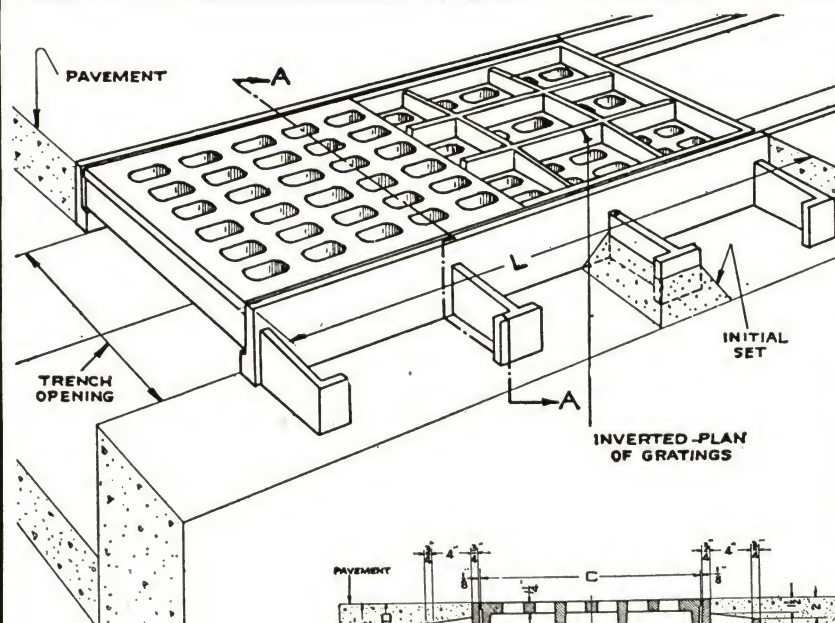




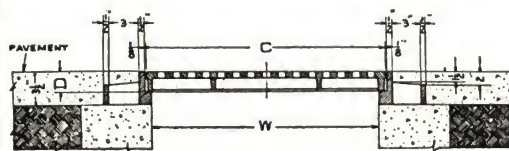
(At Right) TYPE 551



(At Left) TYPE 550



(At Right) TYPE 552



(At Left) TYPE 553

TRENCH FRAMES AND COVERS

A Indicates Cast Fitting Surfaces.
B Indicates Milled Horizontal Fitting Surfaces.
C Indicates Milled Hor. & Vert. Fitting Surfaces.

TYPE 551 FOR ROADWAYS

TYPE AND CODE NUMBER			DIMENSIONS INCHES			
551-A	551-B	551-C	W	L	C	D
41750	41764	41778	6	48	7 $\frac{3}{4}$	2
41751	41765	41779	8	48	9 $\frac{3}{4}$	2
41752	41766	41780	10	48	11 $\frac{3}{4}$	2
41753	41767	41781	12	48	13 $\frac{3}{4}$	2
41754	41768	41782	14	48	15 $\frac{3}{4}$	2 $\frac{1}{2}$
41755	41769	41783	16	48	17 $\frac{3}{4}$	2 $\frac{1}{2}$
41756	41770	41784	18	48	19 $\frac{3}{4}$	2 $\frac{1}{2}$
41757	41771	41785	20	48	21 $\frac{3}{4}$	2 $\frac{1}{2}$
41758	41772	41786	22	48	23 $\frac{3}{4}$	2 $\frac{1}{2}$
41759	41773	41787	24	48	25 $\frac{3}{4}$	3
41760	41774	41788	30	48	31 $\frac{3}{4}$	3
41761	41775	41789	36	48	37 $\frac{3}{4}$	3
41762	41776	41790	42	48	43 $\frac{3}{4}$	3
41763	41777	41791	48	48	49 $\frac{3}{4}$	3

TYPE 550 FOR WALKWAYS

TYPE AND CODE NUMBER			DIMENSIONS INCHES			
550-A	550-B	550-C	W	L	C	D
41550	41564	41578	6	48	7 $\frac{3}{4}$	1 $\frac{1}{2}$
41551	41565	41579	8	48	9 $\frac{3}{4}$	1 $\frac{1}{2}$
41552	41566	41580	10	48	11 $\frac{3}{4}$	1 $\frac{1}{2}$
41553	41567	41581	12	48	13 $\frac{3}{4}$	1 $\frac{1}{2}$
41554	41568	41582	14	48	15 $\frac{3}{4}$	2
41555	41569	41583	16	48	17 $\frac{3}{4}$	2
41556	41570	41584	18	48	19 $\frac{3}{4}$	2
41557	41571	41585	20	48	21 $\frac{3}{4}$	2
41558	41572	41586	22	48	23 $\frac{3}{4}$	2
41559	41573	41587	24	48	25 $\frac{3}{4}$	2 $\frac{1}{2}$
41560	41574	41588	30	48	31 $\frac{3}{4}$	2 $\frac{1}{2}$
41561	41575	41589	36	48	37 $\frac{3}{4}$	2 $\frac{1}{2}$
41562	41576	41590	42	48	43 $\frac{3}{4}$	2 $\frac{1}{2}$
41563	41577	41591	48	48	49 $\frac{3}{4}$	2 $\frac{1}{2}$

TRENCH FRAMES AND GRATINGS

A Indicates Cast Fitting Surfaces.
B Indicates Milled Horizontal Fitting Surfaces.
C Indicates Milled Hor. & Vert. Fitting Surfaces.

TYPE 552 FOR ROADWAYS

TYPE AND CODE NUMBER			DIMENSIONS INCHES			
552-A	552-B	552-C	W	L	C	D
41850	41864	41878	6	48	7 $\frac{3}{4}$	2
41851	41865	41879	8	48	9 $\frac{3}{4}$	2
41852	41866	41880	10	48	11 $\frac{3}{4}$	2
41853	41867	41881	12	48	13 $\frac{3}{4}$	2
41854	41868	41882	14	48	15 $\frac{3}{4}$	2 $\frac{1}{2}$
41855	41869	41883	16	48	17 $\frac{3}{4}$	2 $\frac{1}{2}$
41856	41870	41884	18	48	19 $\frac{3}{4}$	2 $\frac{1}{2}$
41857	41871	41885	20	48	21 $\frac{3}{4}$	2 $\frac{1}{2}$
41858	41872	41886	22	48	23 $\frac{3}{4}$	2 $\frac{1}{2}$
41859	41873	41887	24	48	25 $\frac{3}{4}$	3
41860	41874	41888	30	48	31 $\frac{3}{4}$	3
41861	41875	41889	36	48	37 $\frac{3}{4}$	3
41862	41876	41890	42	48	43 $\frac{3}{4}$	3
41863	41877	41891	48	48	49 $\frac{3}{4}$	3

TYPE 553 FOR WALKWAYS

TYPE AND CODE NUMBER			DIMENSIONS INCHES			
553-A	553-B	553-C	W	L	C	D
41650	41664	41678	6	48	7 $\frac{3}{4}$	1 $\frac{1}{2}$
41651	41665	41679	8	48	9 $\frac{3}{4}$	1 $\frac{1}{2}$
41652	41666	41680	10	48	11 $\frac{3}{4}$	1 $\frac{1}{2}$
41653	41667	41681	12	48	13 $\frac{3}{4}$	1 $\frac{1}{2}$
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41660	41674	41688	30	48	31 $\frac{3}{4}$	2 $\frac{1}{2}$
41661	41675	41689	36	48	37 $\frac{3}{4}$	2 $\frac{1}{2}$
41662	41676	41690	42	48	43 $\frac{3}{4}$	2 $\frac{1}{2}$
41663	41677	41691	48	48	49 $\frac{3}{4}$	2 $\frac{1}{2}$

CONSTRUCTION CASTINGS

GUARANTEE

Any casting designated for "Roadway" duty which shall break in service within a period of ten years from date of invoice will be replaced free of charge, f.o.b. nearest railroad station in event of failure from any cause whatsoever.

THE RETURN OF GRAY IRON

GRAY CAST IRON

Gray Iron, long practically forgotten, has within the past fifteen years been developed to a wide range of utility. Its return as a major material for specific uses is now widely acknowledged.

Both architects and engineers have always academically recognized gray iron as unequaled in its resistance to corrosion and abrasion. Due to inadequate understanding of its nature, its performance has been so unsatisfactory under impact and modern conditions that its use has become vestigial.

RESEARCH AND DEVELOPMENT OF GRAY IRON

Fifteen years ago our Department of Research and Development initiated an extensive program to determine:

1. The limits to which gray iron could be relied upon.
2. The design of gray iron structures adequate to resist heavy oblique impacts.
3. The development of a definite system of design with the purpose of establishing gray iron as a reliable and economic material.

Some of the results of this research are embodied in this catalog, featuring guaranteed simple gray cast iron constructions.

DESIGN OF GRAY CAST IRON

The essential principle in producing an effective and economical casting is proper design. Our effort is to produce constructions adequate for the conditions imposed and simple in design for economical costs.

SCOPE OF GRAY IRON

Research indicates conclusively that gray iron, properly designed, is one of the best and most economical materials for stationary, permanent structures. This is especially true where the factors of corrosion, abrasion and oblique impact occur.

Research also indicated that castings had been improperly designed, being too heavy in some cases and too light in others. While gray iron had been used in finest machinery its application in the construction field is as yet slightly developed.

PROTECTION OF CAST IRON

Painting and galvanizing are not required unless for aesthetic reasons. Castings are a perfect unit, there is nothing to come apart.

AVAILABILITY OF GUARANTEED CONSTRUCTION CASTINGS

WIDE RANGE OF TYPES AND SIZES

On the following pages are described the more common types of construction castings. It does not represent complete line which is probably the most complete in the world.

ENGINEERING SERVICE

For situations not described in this catalog we ask architects and engineers to address our Department of Research and Development. Special design service will be rendered without charge or obligation.

ORDERS

In ordering specify Type and Code Number. Modifications should be clearly explained.

NOTES

Material. All castings are made of close-grained gray cast iron and are readily machineable. Gray cast iron properly designed is one of the most desirable architectural materials.

Milled Fitting Parts. When specified frames and covers, etc., are supplied with milled horizontal bearing surfaces, or with milled horizontal and vertical bearing surfaces.

Lift Handles. All covers are supplied with lift handles instead of pick holes when specified.

Locks. All covers may be supplied with a locking device opened by means of a socket wrench when specified.

ROADWAY

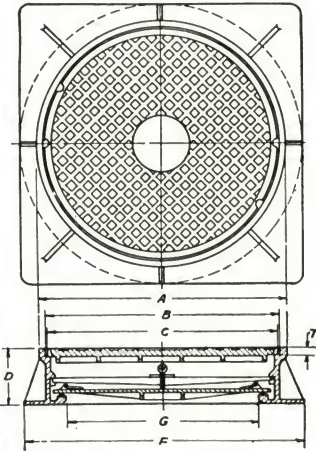
FRAMES FOR PIT OR SLAB CONSTRUCTION SEALED AND LOCKED COVERS—

13
52

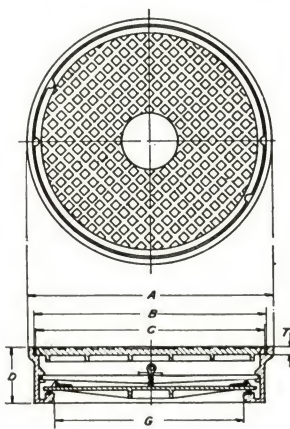
CIRCULAR

FOR PIT, SLAB OR
WATER-PROOF
SLAB CONSTRUCTION.

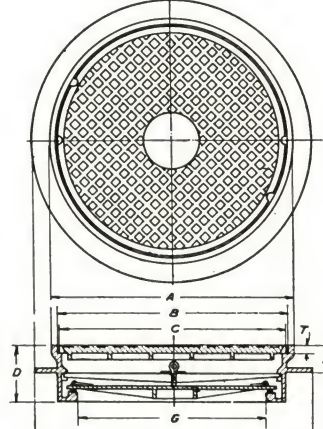
TYPES AND CODE NUMBERS								DIMENSIONS—INCHES						
154-A Circular Flange		154-A Square Flange		154-RA		154-SA		G	A	B	D	F	C	*T
Roadways	Walkways	Roadways	Walkways	Roadways	Walkways	Roadways	Walkways							
28478	28486	27482	27483	27700	27706	27481	27484	24	34 $\frac{3}{4}$	31 $\frac{3}{4}$	10	40 $\frac{1}{2}$	31 $\frac{1}{2}$	1 $\frac{1}{4}$
28479	28487	26140	26180	27701	27707	26145	26185	27	36 $\frac{1}{2}$	33 $\frac{1}{2}$	11	43 $\frac{1}{2}$	33 $\frac{1}{4}$	1 $\frac{1}{2}$
28480	28488	26150	26190	27702	27708	26155	26195	30	39 $\frac{1}{2}$	36 $\frac{1}{2}$	11	46 $\frac{1}{2}$	36 $\frac{1}{4}$	1 $\frac{1}{2}$
28481	28489	25910	27888	27790	27791	28494	28495	31	41 $\frac{1}{4}$	38 $\frac{3}{4}$	11	47	38	1 $\frac{1}{2}$
28482	28490	27887	27886	27703	27709	27889	27890	36	47	44	10	52 $\frac{1}{2}$	43 $\frac{5}{8}$	1 $\frac{1}{2}$
28483	28491	27864	27885	27704	27710	27891	27892	40	51	48	10	55 $\frac{1}{2}$	47 $\frac{5}{8}$	1 $\frac{1}{2}$
28484	28492	28496	28497	27705	27711	27473	27474	42	53	50	10	57 $\frac{1}{2}$	49 $\frac{5}{8}$	1 $\frac{1}{2}$
28485	28493	27792	27793	27794	27795	27796	27797	48	58	55	10	63	54 $\frac{5}{8}$	1 $\frac{1}{2}$



TYPE 154-A FOR PITS
Circular or Square Flange



TYPE 154-RA FOR SLABS



TYPE 154-SA FOR WATER-
PROOF SLAB

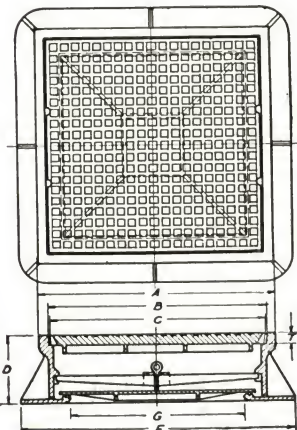
Type 154 — Frames and covers are supplied with rubber gasket $\frac{3}{4}$ inch in diameter. The set screws are bronze and the saddle soft steel. A padlock may be used to secure the inner cover.

All covers showing a "C" dimension of 36 in. or more are, when specified, made in two concentric parts.

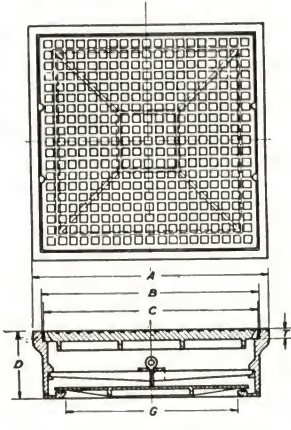
SQUARE

FOR PIT, SLAB OR WATERPROOF
SLAB CONSTRUCTION.

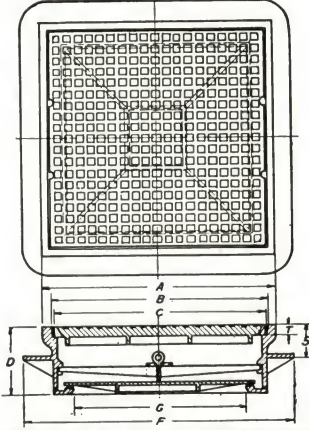
TYPES AND CODE NUMBERS						DIMENSIONS—INCHES						
174-A		174-RA		174-SA		G	A	B	D	F	C	*T
Roadways	Walkways	Roadways	Walkways	Roadways	Walkways							
28000	28001	28002	28003	28004	28005	20	31	28	10	36 $\frac{1}{2}$	27 $\frac{3}{4}$	1 $\frac{1}{2}$
28006	28007	28008	28009	28010	28011	24	35	32	10	40 $\frac{1}{2}$	31 $\frac{3}{4}$	1 $\frac{1}{2}$
28012	28013	28014	28015	28016	28017	27	38	35	10	43 $\frac{1}{2}$	34 $\frac{3}{4}$	1 $\frac{1}{2}$
28018	28019	28020	28021	28022	28023	30	41	38	10	46 $\frac{1}{2}$	37 $\frac{3}{4}$	1 $\frac{1}{2}$
28024	28025	28026	28027	28028	28029	33	44	41	10	49 $\frac{1}{2}$	40 $\frac{3}{4}$	1 $\frac{1}{2}$
28030	28031	28032	28033	28034	28035	36	47	44	10	52 $\frac{1}{2}$	43 $\frac{5}{8}$	1 $\frac{1}{2}$
28036	28037	28038	28039	28040	28041	40	51	48	10	55 $\frac{1}{2}$	47 $\frac{5}{8}$	1 $\frac{1}{2}$
28042	28043	28044	28045	28046	28047	42	53	50	10	57 $\frac{1}{2}$	49 $\frac{5}{8}$	1 $\frac{1}{2}$
28048	28049	28050	28051	28052	28053	48	59	56	10	63 $\frac{1}{2}$	55 $\frac{5}{8}$	1 $\frac{1}{2}$



TYPE 174-A FOR PITS



TYPE 174-RA FOR SLABS



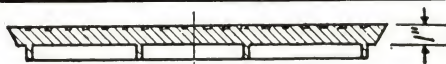
TYPE 174-SA FOR WATERPROOF
SLABS

Type 174 — Frames and covers are supplied with rubber gasket $\frac{3}{4}$ inch in diameter. The set screws are bronze and the saddle soft steel. A padlock may be used to secure the inner cover.

All covers showing a "C" dimension of 36 in. or more are, when specified, made in two equal and identical parts.

WALKWAY

FRAMES FOR PIT OR SLAB CONSTRUCTION SEALED AND LOCKED COVERS—



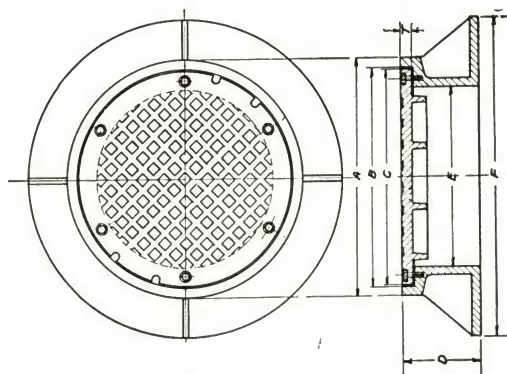
WALKWAY COVERS*

*Both of the types described over 154-174 are supplied with 1 inch thick covers for walkway service. All other dimensions and code numbers are given above.

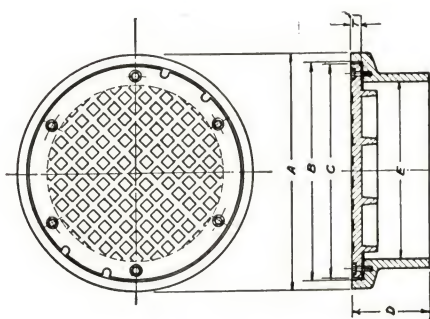
GUARANTEED GRAY CAST IRON FOR PERMANENCE

ROADWAY FRAMES FOR PIT OR SLAB CONSTRUCTION GASKETED AND BOLTED COVERS

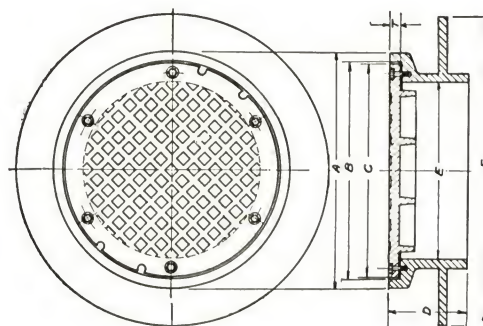
CIRCULAR



TYPE 194-C FOR PITS



TYPE 194-CD FOR SLABS



TYPE 194-CE FOR WATER-PROOF SLABS

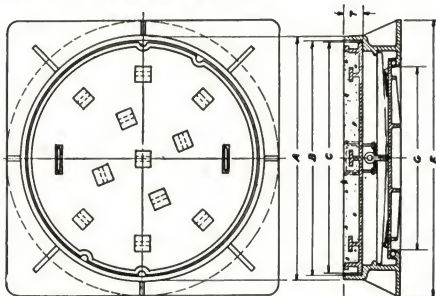
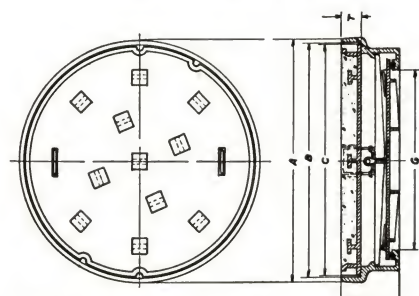
TYPE AND CODE NUMBER			DIMENSIONS—INCHES							No. of Cap Screws
194-C	194-CD	194-CE	E	A	B	D	F	C	T	
28350	28357	28364	12	18	16	8	26	15 $\frac{7}{8}$	1 $\frac{1}{4}$	4
28351	28358	28365	18	24	22	8	32	21 $\frac{7}{8}$	1 $\frac{1}{4}$	4
28352	28359	28366	24	30	28	8	38	27 $\frac{7}{8}$	1 $\frac{1}{4}$	6
28353	28360	28367	30	36	34	8	44	33 $\frac{7}{8}$	1 $\frac{1}{2}$	6
28354	28361	28368	36	42	40	8	50	39 $\frac{7}{8}$	1 $\frac{1}{2}$	8
28355	28362	28369	42	48	46	8	56	45 $\frac{7}{8}$	1 $\frac{1}{2}$	8
28356	28363	28370	48	54	52	8	26	51 $\frac{7}{8}$	1 $\frac{1}{2}$	10

Gasketed and Bolted Type 194 is supplied where a sealed frame and cover is required at less cost than the sealed and locked types on page 13, but it requires more time to remove and replace covers.

The bearing surfaces on both the frame and cover are milled to a true and even surface and a $\frac{1}{4}$ inch flat rubber gasket is supplied.

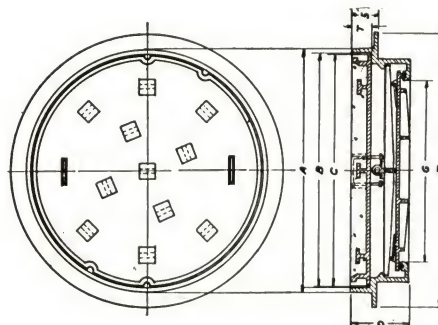
WALKWAY FRAMES FOR PIT OR SLAB CONSTRUCTION SEALED AND LOCKED COVERS FOR CONCRETE FILL

CIRCULAR

TYPE 201-AC FOR PIT CONSTRUCTION
CIRCULAR SQUARE FLANGE

TYPE 201-RAC FOR SLAB CONSTRUCTION

TYPE AND CODE NUMBER				DIMENSIONS—INCHES						
201-AC	201-AC	201-RAC	201-SAC	G	A	B	D	F	C	T
Circular Flange	Square Flange	Circular Flange	Circular Flange							
28550	28551	28552	28553	20	31 $\frac{1}{4}$	29 $\frac{3}{4}$	11 $\frac{1}{2}$	36 $\frac{1}{2}$	29 $\frac{1}{2}$	3 $\frac{1}{2}$
28554	28555	28556	28557	24	35 $\frac{1}{4}$	33 $\frac{3}{4}$	11 $\frac{1}{2}$	40 $\frac{1}{2}$	33 $\frac{1}{2}$	3 $\frac{1}{2}$
28558	28559	28560	28561	27	38 $\frac{1}{4}$	36 $\frac{3}{4}$	11 $\frac{1}{2}$	43 $\frac{1}{2}$	36 $\frac{1}{2}$	3 $\frac{1}{2}$
28562	28563	28564	28565	30	41 $\frac{1}{4}$	39 $\frac{3}{4}$	11 $\frac{1}{2}$	46 $\frac{1}{2}$	39 $\frac{1}{2}$	3 $\frac{1}{2}$
28566	28567	28568	28569	36	47 $\frac{1}{4}$	45 $\frac{3}{4}$	11 $\frac{1}{2}$	52 $\frac{1}{2}$	45 $\frac{1}{2}$	3 $\frac{1}{2}$
28570	28571	28572	28573	42	53 $\frac{1}{4}$	51 $\frac{3}{4}$	11 $\frac{1}{2}$	58 $\frac{1}{2}$	51 $\frac{1}{2}$	3 $\frac{1}{2}$
28574	28575	28576	28577	48	59 $\frac{1}{4}$	57 $\frac{3}{4}$	11 $\frac{1}{2}$	64 $\frac{1}{2}$	57 $\frac{1}{2}$	3 $\frac{1}{2}$



TYPE 201-SAC WATERPROOF SLAB CONSTRUCTION

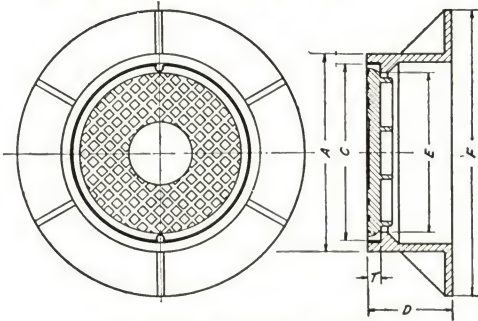
Type 201 — Frames and Covers are supplied with a rubber gasket $\frac{3}{4}$ in. in diameter. The set screws and lift handles are bronze and the saddle soft steel. Provision is made for locking inner cover with a padlock.

Being of cast iron, the covers have the rigidity to prevent cracking of the concrete or terrazzo fill.

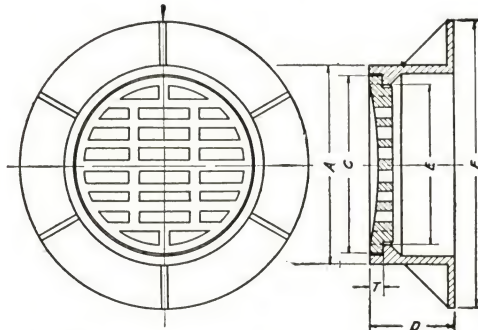
ROADWAY FRAMES FOR PIT CONSTRUCTION GRAVITY COVERS OR GRATINGS

13
52

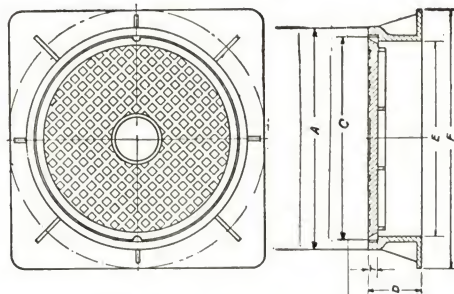
CIRCULAR



TYPE 158-D WITH COVER



TYPE 158-D WITH PLANE OR CONCAVE GRATINGS



TYPE 173-C WITH COVER

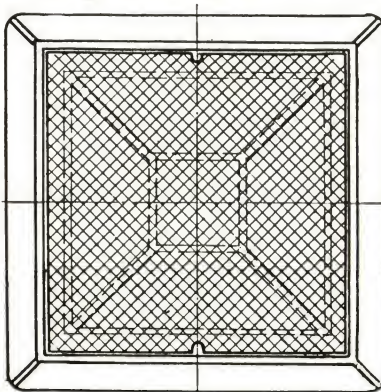
TYPE AND CODE NUMBER

DIMENSIONS—INCHES

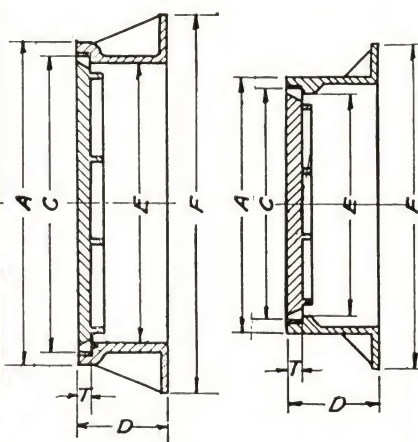
158-D			173-C		E	A	D	F	C	T		
With Cover	Concave Gratings	Plane Gratings	Square Flange	Circular Flange								
25112	27413	27410	28071	28072	10 ³ / ₄	14	8	17	12	1 ¹ / ₄		
27414					15	18 ³ / ₄	8	27	16 ¹ / ₂	1 ¹ / ₄		
25015					15 ³ / ₄	19 ¹ / ₂	8	24	17 ¹ / ₂	1		
					19 ¹ / ₂	24	9 ⁵ / ₈	37	21 ¹ / ₈	1 ³ / ₈		
25001	25099	27411			21	25 ¹ / ₂	10	40	22 ¹ / ₂	1 ¹ / ₂		
25063					21 ¹ / ₄	25 ⁵ / ₈	9	36	23 ¹ / ₄	1 ¹ / ₂		
25700					21 ¹ / ₂	27 ¹ / ₄	6	38 ¹ / ₂	23 ³ / ₄	1 ¹ / ₂		
25008					21 ¹ / ₂	25 ⁵ / ₈	7	32	23 ³ / ₄	3		
25026					21 ¹ / ₂	26	8	31 ³ / ₄	24 ¹ / ₈	3		
25088					21 ¹ / ₂	26	9	41 ¹ / ₂	24	2		
25203					21 ¹ / ₂	26 ¹ / ₂	12	38	23 ³ / ₄	1 ³ / ₈		
25226					21 ³ / ₄	26 ³ / ₄	8	46	24	1 ³ / ₈		
25031					27412	25032	22	26	7	32	24 ¹ / ₂	1 ¹ / ₄
25273							22	26	8	37	23 ¹ / ₂	1
25017	25006				23 ¹ / ₂	27 ¹ / ₂	8	37	25	1 ³ / ₈		
25513			28089	28090	24	28 ¹ / ₂	9 ¹ / ₄	36	25 ³ / ₄	1 ¹ / ₂		
25261					24	28 ¹ / ₂	6	38	26	1 ¹ / ₂		
					28085	28054	24	28 ¹ / ₂	8	38	26	1 ¹ / ₂
			27884	24 ¹ / ₂	29 ³ / ₄	12	40 ¹ / ₂	26 ¹ / ₄	1 ¹ / ₂			
				25 ¹ / ₂	29 ³ / ₄	8	36	27 ¹ / ₂	1 ¹ / ₂			
26225				26 ¹ / ₂	31	10	37	28 ¹ / ₄	1 ¹ / ₄			
			27	31	10	38	28 ³ / ₄	2 ³ / ₄				
	25904		26383	28056	30	34 ¹ / ₂	8	44	32	1 ¹ / ₂		
					28075	28057	30	35	12	46	31 ³ / ₄	1 ¹ / ₂
25557			28084	28085	34	38 ¹ / ₂	8	48 ¹ / ₂	36	1 ¹ / ₂		
34					39 ¹ / ₂	11	46 ¹ / ₂	36 ¹ / ₄	1 ¹ / ₂			
25960			36	40 ¹ / ₂	7	54	37 ³ / ₄	1 ¹ / ₂				
			25206	28058	36	41 ¹ / ₈	8	48	37 ⁷ / ₈	1 ¹ / ₂		
			28076	28059	36	42 ¹ / ₂	12	48	38 ¹ / ₄	2		
			26223	28060	42	46 ³ / ₄	10	58	44 ¹ / ₂	3		
			28082	28083	48	53	10	57 ¹ / ₂	49 ⁵ / ₈	1 ¹ / ₂		

ROADWAY FRAMES FOR PIT CONSTRUCTION GRAVITY COVERS

SQUARE



TYPE 169-C



TYPE 169-D

TYPE AND CODE NUMBER

DIMENSIONS—INCHES

169-D	169-C	E	A	F	D	C	T	
25403	26320	8 ⁵ / ₈	11 ⁷ / ₈	17	9	10 ⁵ / ₈	3	
25406		9 ¹ / ₂	12 ¹ / ₂	21 ¹ / ₂	9 ⁵ / ₈	11 ¹ / ₄	3	
25404		11 ¹ / ₂	14	20	9	13	2 ¹ / ₂	
		21 ¹ / ₂	26	36	9 ³ / ₄	23 ³ / ₄	1 ¹ / ₂	
25914	26393	22	27	40	8	24	1 ³ / ₄	
26393		24	27 ¹ / ₂	35	8	25 ³ / ₄	1 ¹ / ₂	
		28235	24	29 ¹ / ₄	40 ¹ / ₄	8	26	1 ¹ / ₂
		28236	26	31	36 ¹ / ₂	10	27 ³ / ₄	1 ¹ / ₄
28238	28237	30	35	40 ¹ / ₂	10	31 ³ / ₄	1 ¹ / ₄	
		32	36	44	4	34	1	
	28239	33	38	43 ¹ / ₂	10	34 ³ / ₄	1 ¹ / ₄	
	28240	36	41	46 ¹ / ₂	10	37 ³ / ₄	1 ¹ / ₄	
	28241	39	44	49 ¹ / ₂	10	40 ³ / ₄	1 ¹ / ₄	
	28242	42	47	52 ¹ / ₂	10	43 ³ / ₄	1 ¹ / ₄	
	28243	46	51	56 ¹ / ₂	10	47 ³ / ₄	1 ¹ / ₄	
	28244	48	53	58 ¹ / ₂	10	49 ³ / ₄	1 ¹ / ₄	
	28245	54	59	64 ¹ / ₂	10	55 ³ / ₄	1 ¹ / ₄	
	28246	60	65	70 ¹ / ₂	10	61 ³ / ₄	1 ¹ / ₂	

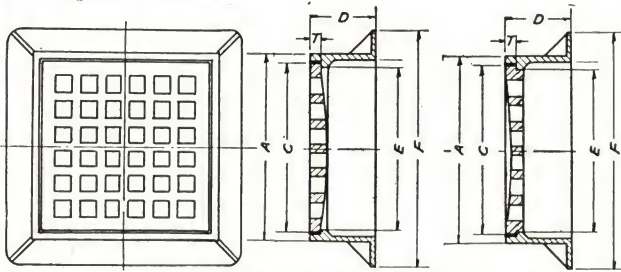
15

GUARANTEED GRAY CAST IRON FOR PERMANENCE

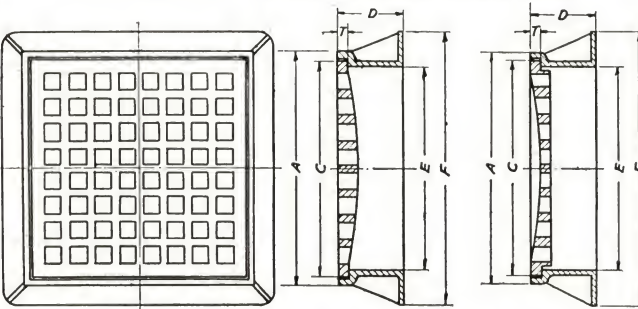
ROADWAY FRAMES FOR PIT CONSTRUCTION GRAVITY GRATINGS

13
52

SQUARE



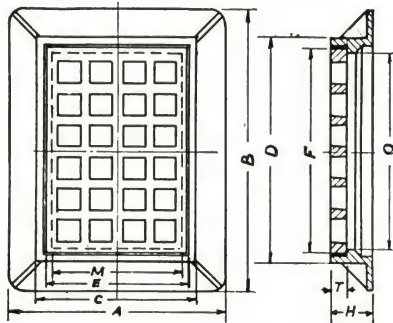
TYPE 192-D WITH PLANE OR CONCAVE GRATING



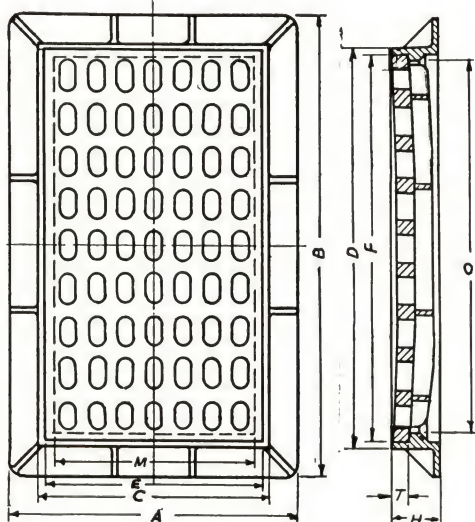
TYPE 192-C WITH PLANE OR CONCAVE GRATING

TYPE AND CODE NUMBER				DIMENSIONS—INCHES					
192-D		192-C		E	A	C	D	F	T
With Plane Grating	With Concave Grating	With Plane Grating	With Concave Grating						
28210	28220			8 ⁵ / ₈	11 ⁷ / ₈	10 ⁵ / ₈	9	17	3
28211	28221			9 ¹ / ₂	12 ¹ / ₂	11 ¹ / ₄	9 ⁵ / ₈	21 ¹ / ₂	3
28212	28222			11 ¹ / ₂	13 ³ / ₄	13	9	20	2 ¹ / ₂
25414	28223			22	26 ⁷ / ₈	24	8	40 ¹ / ₄	1 ³ / ₄
		28200	28224	24	29 ¹ / ₄	26	10	40 ¹ / ₄	1 ¹ / ₂
		28201	28225	26	31	27 ³ / ₄	10	36 ¹ / ₂	1 ¹ / ₂
		28202	28226	30	35	31 ³ / ₄	10	40 ¹ / ₂	1 ¹ / ₂
25471	28227			32	36	34	4	44	2 ¹ / ₂
		28203	28228	33	38	34 ³ / ₄	10	43 ¹ / ₂	1 ¹ / ₂
		28204	28229	36	41	37 ³ / ₄	10	46 ¹ / ₂	1 ¹ / ₂
		28205	28230	39	44	40 ³ / ₄	10	49 ¹ / ₂	1 ¹ / ₂
		28206	28231	42	47	43 ³ / ₄	10	52 ¹ / ₂	1 ¹ / ₂
		28207	28232	46	51	47 ³ / ₄	10	56 ¹ / ₂	1 ¹ / ₂
		28208	28233	48	53	49 ³ / ₄	10	58 ¹ / ₂	1 ¹ / ₂
		28209	28234	54	59	55 ³ / ₄	10	64 ¹ / ₂	1 ¹ / ₂

RECTANGULAR



TYPE 187-D WITH PLANE GRATING

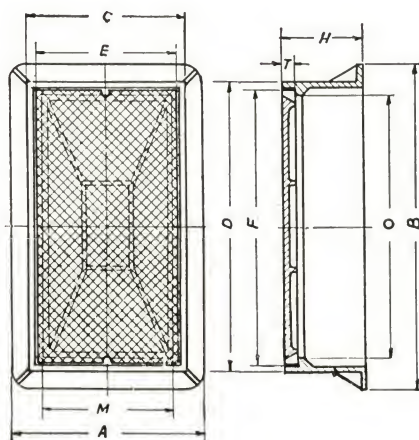


TYPE 163-D WITH CONCAVE GRATING

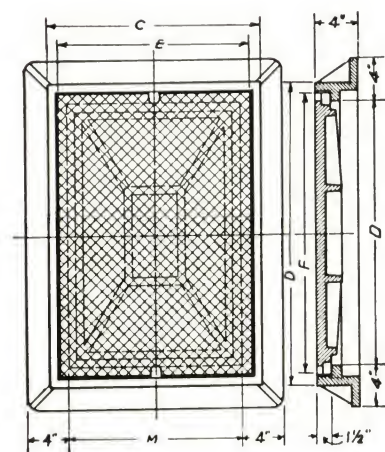
TYPE AND CODE NO.		DIMENSIONS—INCHES									
187-D	163-D	M	O	A	B	C	D	E	F	H	T
With Plane Grating	With Concave Grating										
26403		10 ¹ / ₂	16 ³ / ₈	19 ¹ / ₂	25 ¹ / ₂	15	21	12	18	5 ¹ / ₂	1 ¹ / ₂
26002		11	46 ¹ / ₂	21	57	17	54 ¹ / ₄	13 ¹ / ₂	49	3	2
26424		13	21	21	29	18	26	16	24	3 ¹ / ₂	3
26687		14	19 ¹ / ₂	24 ¹ / ₂	29 ¹ / ₂	18 ¹ / ₄	23 ¹ / ₂	16 ¹ / ₂	21 ³ / ₄	4	2
26688		16 ³ / ₈	22 ³ / ₈	23	29	20	26	18	24	3 ³ / ₄	2
26658		17	22 ¹ / ₂	26 ¹ / ₄	32	24 ³ / ₄	26	18 ¹ / ₂	23 ³ / ₄	5	2
26040		17 ¹ / ₂	21 ¹ / ₂	24	28	20 ¹ / ₄	24 ¹ / ₄	18 ³ / ₄	22 ³ / ₄	4	2
26112		18 ³ / ₄	33 ¹ / ₂	28	43	22 ³ / ₄	37 ¹ / ₄	20 ¹ / ₄	35 ¹ / ₂	4	1 ³ / ₄
25872		19	22 ³ / ₄	26 ¹ / ₂	31	21 ³ / ₄	25 ³ / ₄	20	24	8	1 ¹ / ₂
25465		19	22 ³ / ₄	26 ¹ / ₂	31	21 ³ / ₄	25 ³ / ₄	20	24	3	1 ¹ / ₂
26692		19 ¹ / ₂	29	29 ¹ / ₂	39	23 ¹ / ₂	33 ⁷ / ₈	21 ³ / ₄	32 ¹ / ₈	4	1 ¹ / ₂
	25101	19 ¹ / ₂	45 ¹ / ₂	28	54	23 ¹ / ₂	49 ¹ / ₂	21 ¹ / ₂	47 ¹ / ₂	5	1 ¹ / ₄
	26118	19 ⁵ / ₈	36	30 ¹ / ₂	46 ³ / ₄	24 ¹ / ₂	40 ⁷ / ₈	21 ⁵ / ₈	38	5	2
26439	26447	20 ³ / ₄	27 ¹ / ₂	27 ¹ / ₂	34	25 ¹ / ₄	31 ³ / ₄	22 ³ / ₄	29 ¹ / ₄	3	2
26498		21 ¹ / ₄	25 ³ / ₄	32 ¹ / ₄	36 ¹ / ₄	26 ¹ / ₄	30 ¹ / ₄	24	28	4 ¹ / ₂	1 ⁵ / ₈
25216		22	26	31 ³ / ₄	40	26 ¹ / ₄	30 ¹ / ₄	24	28	4	1 ⁵ / ₈
26499		22	26	32	40	27 ¹ / ₄	31	24	28	8 ³ / ₄	1 ⁵ / ₈
26368		22	32 ¹ / ₄	32	42	25 ³ / ₄	35 ¹ / ₂	24	33 ³ / ₄	3 ¹ / ₄	2
25472		22 ¹ / ₂	32 ¹ / ₄	32	42 ¹ / ₄	25 ³ / ₄	35 ³ / ₄	24	33 ³ / ₄	4	2
25413		22 ¹ / ₂	34	32 ³ / ₄	41	30	38 ¹ / ₄	26	36	4	3
	26219	24	34	37	46 ³ / ₄	28 ¹ / ₂	38 ¹ / ₄	26	35 ¹ / ₂	8	3
26471		24 ¹ / ₂	34	32	42 ¹ / ₂	28 ³ / ₄	38 ¹ / ₄	26 ¹ / ₄	36	4 ¹ / ₂	3
		24 ³ / ₄	35 ¹ / ₄	35	45	29	39 ¹ / ₂	26	36 ⁵ / ₈	3 ¹ / ₂	2
26364		26	38	36	48	29 ³ / ₄	41 ³ / ₄	28	40	5	2
	25115	27 ¹ / ₂	47 ¹ / ₂	36	55 ¹ / ₂	32	51 ¹ / ₂	29 ¹ / ₂	49 ¹ / ₂	5	1
	26117	33	40	43	49 ³ / ₄	37	35 ³ / ₄	35	42	5	1 ¹ / ₄
26473		34 ¹ / ₂	40 ³ / ₄	42	48	39	45	36	42 ¹ / ₄	4	2
35002		35 ¹ / ₄	48	48	61	38 ¹ / ₄	51 ¹ / ₄	36 ¹ / ₂	49 ¹ / ₂	4	1 ¹ / ₂
	26119	41 ¹ / ₂	45 ³ / ₄	49 ³ / ₄	54	45 ³ / ₄	49 ¹ / ₂	43 ¹ / ₂	47 ³ / ₄	5	1 ¹ / ₄

16

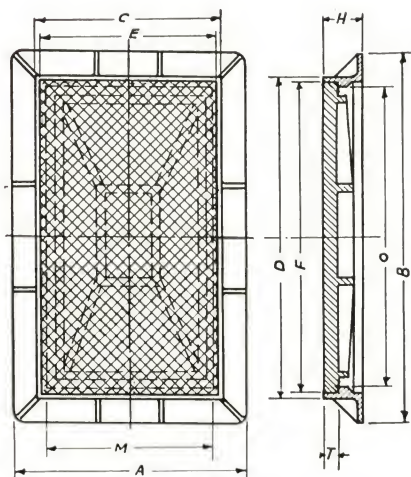
RECTANGULAR



TYPE 169-D



TYPE 204-E

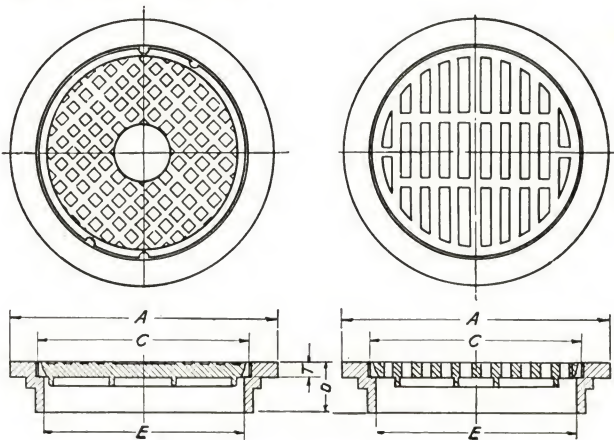


TYPE 163-D

TYPE AND CODE NUMBER			DIMENSIONS — INCHES									
169-D	204-E	163-D	M	O	A	B	C	D	E	F	H	T
27724	28901		10	15			13½	18½	11½	16½		
	28921		10	20			13½	23½	10½	21½		
			12	18	20	26	14¾	20¾	13	19	8	2
	28902		12	18			15½	21½	13½	19½		
	28922		12	24			15½	27½	13½	25½		
26441	28903		14	21			17½	24½	15½	22½		
			14	27	20	33	16½	29½	15¼	28¼	8½	1¼
	28923		14	28			17½	31½	15½	29½		
26105	28904		16	24			19½	27½	17½	25½		
	28924		16	32			19½	35½	17½	33½		
			16¾	21½	31¾	35	21	24¾	19	22¾	8½	1½
	28905		18	27			21½	30½	19½	28½		
	28925		18	36			21½	39½	19½	37½		
		25642	19½	45½	28	54	23½	49½	21½	47½	5	1¼
		25641	19⅝	36	30½	46¾	24½	40⅞	21⅝	38	5	2
26443			20	26¼	34	40	24	30	21¾	28¼	10¾	1¼
	28906		20	30			23½	33½	21½	31½		
26607	28926		20	40			23½	43½	21½	41½		
		25640	20¾	27½	27½	34	25¼	31¾	22¾	29¼	3	2
26606	28907		21½	41½	32	59	25½	45½	23⅞	43⅞	9¾	1
			22	33			25½	36½	23½	34½		
26367	28927		22	42	39	59	26	46	24¾	44¾	10¼	1½
			22	44			25½	47½	23½	45½		
26454			24	28	38	42	28	32	25⅝	29⅝	9¾	1¼
			24	29	35¼	40¼	27½	32¼	25¾	30¾	8	1½
	28908		24	36			27½	39½	25½	37½		
	28928		24	48			27½	51½	25½	49½		
		25645	24½	34	32	42½	28¾	38¼	26¼	36	4¼	3
27789			26	30	38	42	30	34	28	32	8¾	1½
	28909		26	39			29½	42½	27½	40½		
26375	28929		26	52			29½	55½	27½	53½		
		25643	27½	47½	36	55½	32	51½	29½	49½	5	1
27788	28910		28	42			31½	45½	29½	43½		
			28	50	44	66	31½	53½	29⅝	51⅝	9½	1½
	28930		28	56			31½	59½	29½	57½		
			29½	48	48	66	36	54	34⅛	52⅛	12	1½
25111	28911		30	45			33½	48½	31½	46½		
			30	46	32	60	34	50	32	48	5	2
	28931		30	60			33½	63½	31½	61½		
	28912		32	48			35½	51½	33½	49½		
	28932		32	64			35½	67½	33½	65½		
27723		25644	33	40	43	49¾	37	44	35	42	5	1¼
			34	46	47	60	38	51	36	49	8	1¼
	28913		34	51			37½	54½	35½	52½		
	28933		34	68			37½	71½	35½	69½		
	28914		36	54			39½	57½	37½	55½		
	28934		36	72			39½	75½	37½	73½		
	28915		38	57			41½	60½	39½	58½		
	28935		38	76			41½	79½	39½	77½		
	28916		40	60			43½	63½	41½	61½		
	28936		40	80			43½	83½	41½	81½		
		25646	41½	45¾	49¾	54	45¾	49½	43½	47¾	5	1¼
	28917		42	63			45½	66½	43½	64½		
	28937		42	80			45½	83½	43½	80½		
	28918		44	66			47½	69½	45½	67½		
	28938		44	80			47½	83½	45½	81½		
	28919		46	69			49½	72½	47½	70½		
	28939		46	80			49½	83½	47½	81½		
	28920		48	72			51½	75½	49½	73½		
	28940		48	80			51½	83½	49½	81½		

ROADWAY FRAMES FOR SLAB CONSTRUCTION GRAVITY COVERS OR GRATINGS—

CIRCULAR



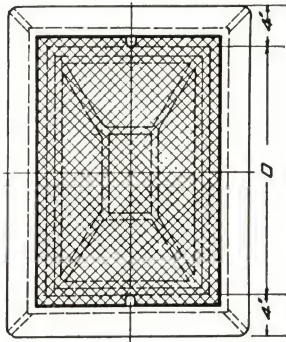
TYPE 159-H

TYPE AND CODE NUMBER				DIMENSIONS INCHES			
159-H				E	A	C	T
Frames and Covers			*Grating Without Frame				
D = 8 In.	D = 6 In.	D = 4 1/2 In.					
27831	27843	27817	27919-G	6	12	8	1
27832	27844	27818	27925-G	9	15	11	1
27833	27883	27819	27926-G	12	19	14	1
27834	27845	27823	27826-G	16	22	18	1 1/4
27835	27846	26629	27930-G	18	24	19	1 3/8
27836	27847	25056	27827-G	20	28 1/2	23	1 1/4
27837	27848	26274	27828-G	24	32 1/2	26	1 1/2
27838	27849	26273	27829-G	30	36 1/2	32	1 1/2
27839	27813	26675	27931-G	36	42 1/2	38	1 1/2
27840	27814	26676	27932-G	42	50	44	1 1/2
27841	27815	27824	27933-G	48	56	50	1 1/2
27842	27816	27825	27934-G	54	62	56	1 1/2

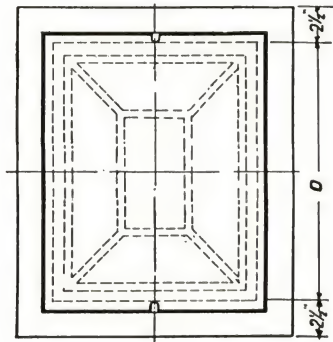
*In ordering this type with grating instead of cover specify proper depth and code number of associated frame.

Flanges may be increased to any desired square, rectangular or circular up to 56 in.

RECTANGULAR



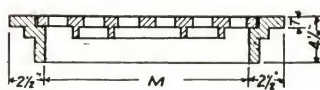
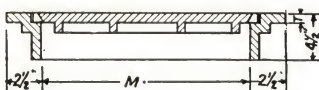
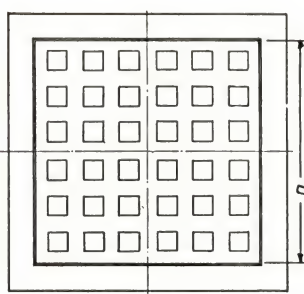
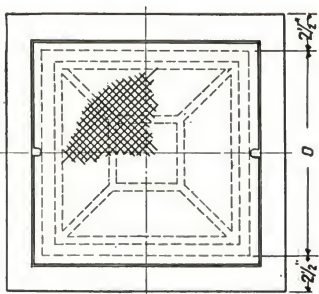
TYPE 204-P



TYPE 135-H

TYPE AND CODE NO.			DIMENSIONS INCHES		
135-H		204-P	M	O	T
With Covers	With Gratings	With Covers			
		28941	10	15	
		28961	10	20	
27572	27584	28942	12	18	1
27573	27583	28962	12	24	1
		28943	14	21	
		28963	14	28	
27574	27586	28944	16	24	1
27575	27587	28964	16	32	1
		28945	18	27	
		28965	18	36	
27576	27588	28946	20	30	1 1/4
27577	27589	28966	20	40	1 1/4
		28947	22	33	
		28967	22	44	
27578	27590	28948	24	36	1 1/4
27579	27591	28968	24	48	1 1/4
		28949	26	39	
		28969	26	52	
		28950	28	42	
		28970	28	56	
27580		28951	30	45	1 1/2
27581		28971	30	60	1 1/2
		28952	32	48	
		28972	32	64	
		28953	34	51	
		28973	34	68	
		28954	36	54	1 1/2
27582		28974	36	72	1 1/2
27583		28955	38	57	
		28975	38	76	
		28956	40	60	
		28976	40	80	
		28957	42	63	
		28977	42	80	
		28958	44	66	
		28978	44	80	
		28959	46	69	
		28979	46	80	
		28960	48	72	
		28980	48	80	

SQUARE



TYPE 135-H

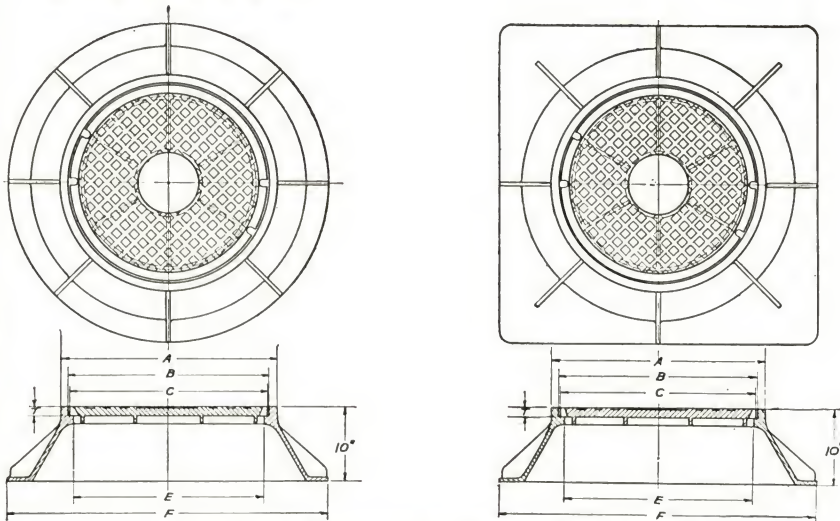
TYPE AND CODE NUMBER		DIMENSIONS INCHES	
135		M	T
With Covers	With Gratings		
27558	27565	12	1
27559	27566	16	1
27560	27567	26	1
27561	27568	24	1 1/4
27562	27569	30	1 1/4
27563	27570	36	1 1/2
27564	27571	42	1 1/2

ROADWAY AND WALKWAY

FLARED FRAMES FOR PIT CONSTRUCTION GRAVITY COVERS

13
52

CIRCULAR



CIRCULAR FLANGE—TYPE 168-B—SQUARE FLANGE

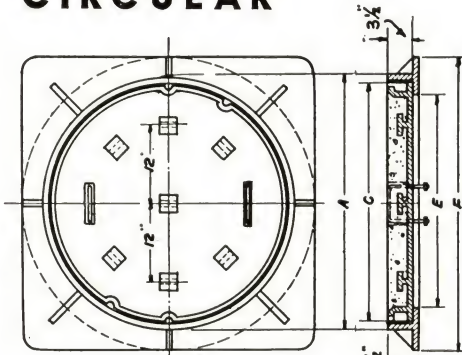
ROADWAY						
TYPE AND CODE NUMBER		DIMENSIONS INCHES				
168-B		E	A	B	F	C
With Circular Flange	With Square Flange					
26560	28213	24	28	26	43	25 3/4
26562	28214	27	31	29	46	28 3/4
26564	28215	30	34	32	49	31 3/4

WALKWAYS						
TYPE AND CODE NUMBER		DIMENSIONS INCHES				
168-B		E	A	B	F	C
With Circular Flange	With Square Flange					
26566	28216	24	28	26	43	25 3/4
26568	28217	27	31	29	46	28 3/4
26570	28218	30	34	32	49	31 3/4

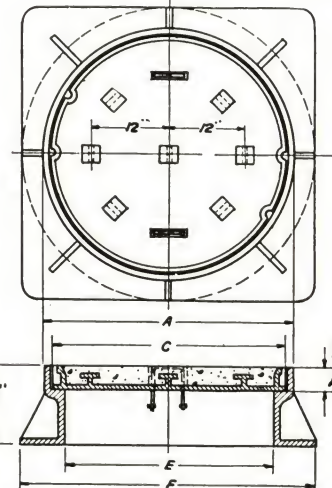
WALKWAY

FRAMES FOR PIT OR SLAB CONSTRUCTION GRAVITY COVERS FOR CONCRETE OR TERRAZZO FILL

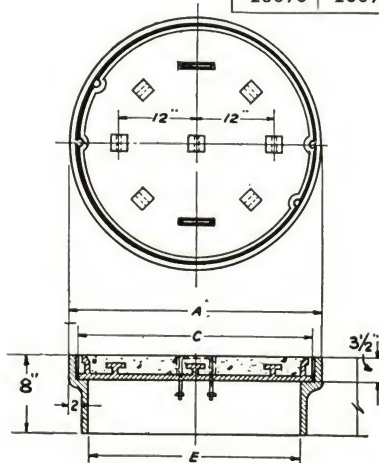
CIRCULAR



TYPE 202 MC
WITH CIRCULAR OR SQUARE FLANGE
FOR PIT CONSTRUCTION



TYPE 202-CC
WITH CIRCULAR OR SQUARE
FLANGE FOR PIT CONSTRUCTION



TYPE 202-HC
FOR SLAB CONSTRUCTION

TYPE AND CODE NUMBER					DIMENSIONS INCHES			
202-MC		202-CC		202-HC	E	A	F	C
With Circular Flange	With Square Flange	With Circular Flange	With Square Flange	For Slab Construction				
28578	28579	28580	28581	28582	10	15 1/4	26	13 1/2
28583	28584	28585	28586	28587	14	19 1/4	30	17 1/2
28660	28661	28662	28663	28664	16	21 1/4	32	19 1/2
28665	28666	28667	28668	28669	20	25 1/4	36	23 1/2
28670	28671	28672	28673	28674	24	29 1/4	40	27 1/2
28675	28676	28677	28678	28679	30	35 1/4	46	33 1/2
28680	28681	28682	28683	28684	36	41 1/4	52	39 1/2
28685	28686	28687	28688	28689	42	47 1/4	58	45 1/2
28690	28691	28692	28693	28694	48	53 1/4	64	51 1/2
28695	28696	28697	28698	28699	54	59 1/4	70	57 1/2

The use of cast iron is particularly advisable for covers which are to be filled with concrete or terrazzo as the rigidity insures against cracking of the fill.

Covers are provided with bronze lift handles.

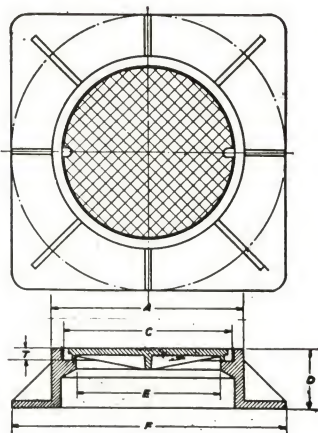
19

GUARANTEED GRAY CAST IRON FOR PERMANENCE

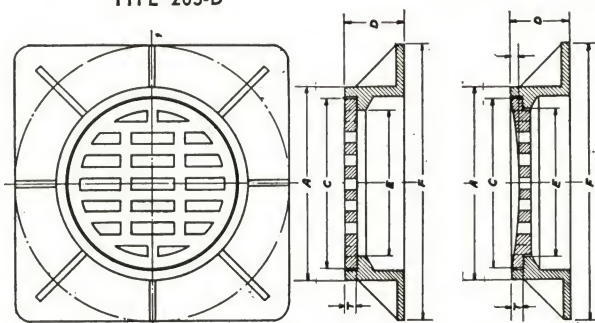
WALKWAY FRAMES FOR PIT CONSTRUCTION GRAVITY COVERS OR GRATINGS

13
52

CIRCULAR

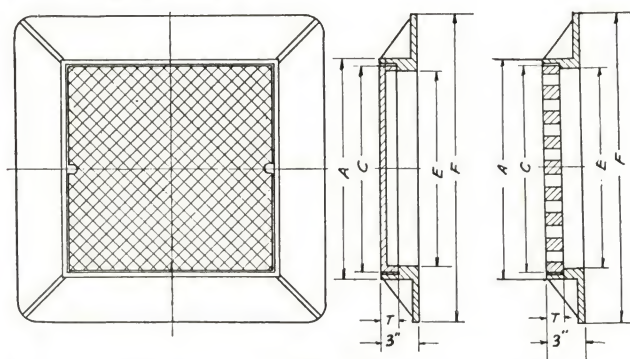


TYPE 205-D



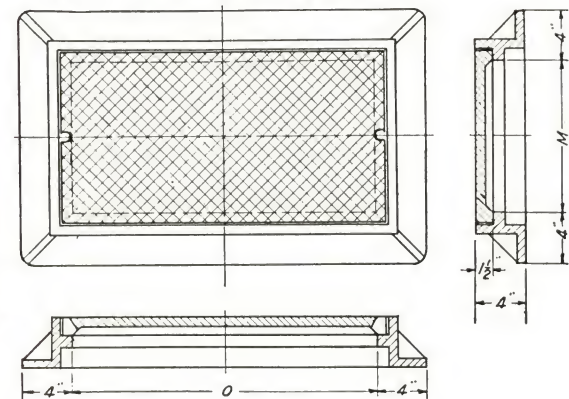
TYPE 205-D—WITH PLANE OR CONCAVE GRATINGS

SQUARE



TYPE 183-E

RECTANGULAR



TYPE 195-E

TYPE AND CODE NUMBER

205-D

With Concave Gratings		With Plane Gratings		With Covers	
Circular Flange	Square Flange	Circular Flange	Square Flange	Circular Flange	Square Flange
27512	27956	27504	27967	25598	27978
27513	27957	27505	27968	27503	27979
27953	27958	27950	27969	26690	27980
27514	27959	27506	27970	25204	27981
				25003	27982
27954	27960	27951	27971	25076	27983
27515	27961	27507	27972	25007	27984
27516	27962	27508	27973	26183	27985
27517	27963	27509	27974	26380	27986
27518	27964	27510	27975	26590	27987
27519	27965	27511	27976	26591	27988
27955	27966	27952	27977	26592	27989

DIMENSIONS—INCHES

E	A	D	F	C	T
8	11½	8	16½	9¾	1
12	16	6	23	14	1
18¾	22½	5	29	20½	1
22	26	6	36	24	1½
22	26	6	44	24	1½
24	28	6	34	26	1
28	31½	4½	39¾	30	¾
30	34	6	43	32	1¼
34	37	5¼	46	35¾	1½
36	39½	4¾	48	37¾	1¼
42	45½	6	54	43¾	1¼
48	51½	6	58	49¾	1¼

TYPE AND CODE NO.

183-E

With Gratings	With Covers
27540	27500
27541	26515
27542	26120
27543	26121
27544	26122
27545	26123
27546	26124
27547	26125
27548	26126
27549	26127
27550	26128
27551	26129
27552	26130
27553	26131
27554	26132
27555	26133
27556	26134
27557	26135

DIMENSIONS—INCHES

E	A	F	C	T
6	8½	12	7¼	1¼
8	10½	14	9¼	1¼
10	12½	16	11¼	1½
12	14½	18	13¼	1½
14	16½	20	15¼	1½
16	18½	22	17¼	1½
18	20½	24	19¼	1½
20	22½	26	21¼	1½
22	24½	28	23¼	1½
24	26½	30	25¼	1½
26	29	32	27¼	1½
28	31	34	29¼	1½
30	33	36	31¼	1½
32	35	38	33¼	1½
34	37	40	35¼	1½
36	39	42	37¼	1½
42	45	48	43¼	1½
48	51	54	49¼	1½

TYPE AND CODE NO.

195-E

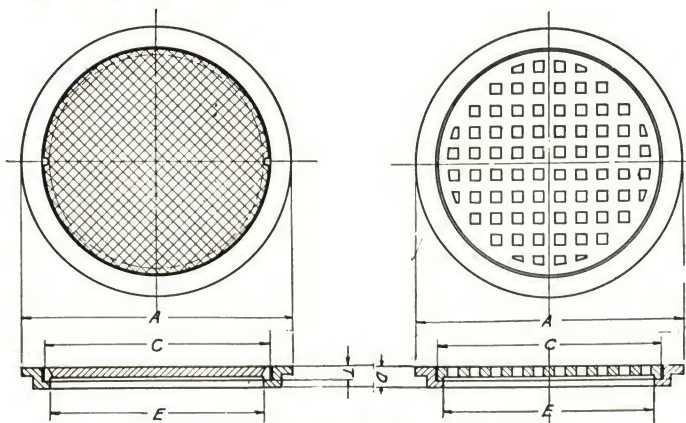
M	O
10	15
12	18
14	21
16	24
18	27
20	30
22	33
24	36
26	39
28	42
30	45
32	48
34	51
36	54
38	57
40	60
42	63
44	66
46	69
48	72

TYPE AND CODE NO.

195-E

M	O
10	20
12	24
14	28
16	32
18	36
20	40
22	44
24	48
26	52
28	56
30	60
32	64
34	68
36	72
38	76
40	80
42	80
44	80
46	80
48	80

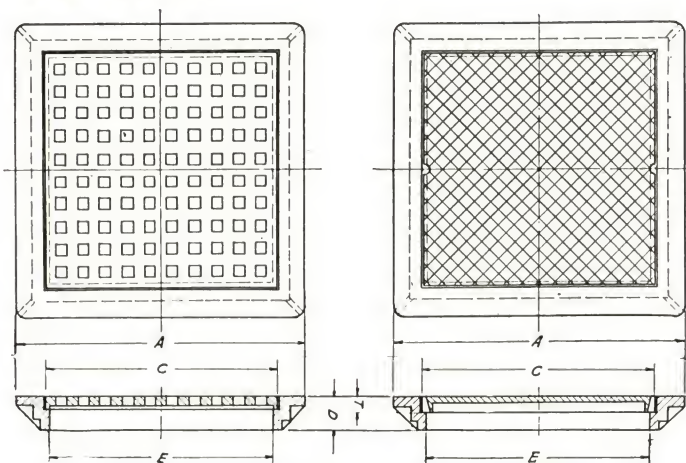
CIRCULAR



TYPE 156-P

TYPE AND CODE NUMBER			DIMENSIONS—INCHES				
156-P			E	A	C	D	T
With Covers	With Concave Gratings	With Plane Gratings					
28474			6	10	7	17 $\frac{7}{8}$	3 $\frac{3}{4}$
28475			9	13	10	17 $\frac{7}{8}$	3 $\frac{3}{4}$
28476	28460	28467	12	16	13	17 $\frac{7}{8}$	3 $\frac{3}{4}$
25050	28461	28468	16	20 $\frac{1}{4}$	17	17 $\frac{7}{8}$	3 $\frac{3}{4}$
25051	28462	28469	18	22 $\frac{1}{4}$	19	17 $\frac{7}{8}$	3 $\frac{3}{4}$
25052	28463	28470	20	24	21	17 $\frac{7}{8}$	1 $\frac{1}{4}$
25054	28464	28471	24	28	25	17 $\frac{7}{8}$	1 $\frac{1}{4}$
26373	28465	28472	30	34 $\frac{1}{2}$	31	17 $\frac{7}{8}$	1
25324	28466	28473	36	41	37 $\frac{3}{4}$	2	1 $\frac{1}{4}$
25325			42	47	43 $\frac{3}{4}$	2	1 $\frac{1}{4}$
28477			48	53	49 $\frac{3}{4}$	2	1 $\frac{1}{4}$
27722			54	59	55 $\frac{3}{4}$	2	1 $\frac{1}{4}$

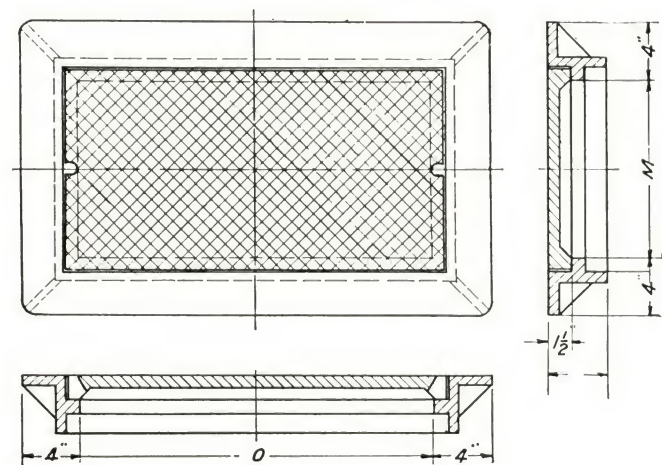
SQUARE



TYPE 142-P

TYPE AND CODE NO.		DIMENSIONS—INCHES				
142-P		E	A	D	C	T
With Plane Gratings	With Covers					
27453	27435	6	12	3	7 $\frac{1}{4}$	1 $\frac{1}{4}$
27454	27436	8	14	3	9 $\frac{1}{4}$	1 $\frac{1}{4}$
27455	27437	10	16	3	11 $\frac{1}{4}$	1 $\frac{1}{2}$
27456	27438	12	18	3	13 $\frac{1}{4}$	1 $\frac{1}{2}$
27457	27439	14	20	3	15 $\frac{1}{4}$	1 $\frac{1}{2}$
27458	27440	16	22	3	17 $\frac{1}{4}$	1 $\frac{1}{2}$
27459	27441	18	24	3	19 $\frac{1}{4}$	1 $\frac{1}{2}$
27460	27442	20	26	3	21 $\frac{1}{4}$	1 $\frac{1}{2}$
27461	27443	22	28	3	23 $\frac{1}{4}$	1 $\frac{1}{2}$
27462	27444	24	30	3	25 $\frac{1}{4}$	1 $\frac{1}{2}$
27463	27445	26	32	3	27 $\frac{1}{4}$	1 $\frac{1}{2}$
27464	27446	28	34	3	29 $\frac{1}{4}$	1 $\frac{1}{2}$
27465	27447	30	36	3	31 $\frac{1}{4}$	1 $\frac{1}{2}$
27466	27448	32	38	3	33 $\frac{1}{4}$	1 $\frac{1}{2}$
27467	27449	34	40	3	35 $\frac{1}{4}$	1 $\frac{1}{2}$
27468	27450	36	42	3	37 $\frac{1}{4}$	1 $\frac{1}{2}$
27469	27451	42	48	3	43 $\frac{1}{4}$	1 $\frac{1}{2}$
27470	27452	48	54	3	49 $\frac{1}{4}$	1 $\frac{1}{2}$

RECTANGULAR



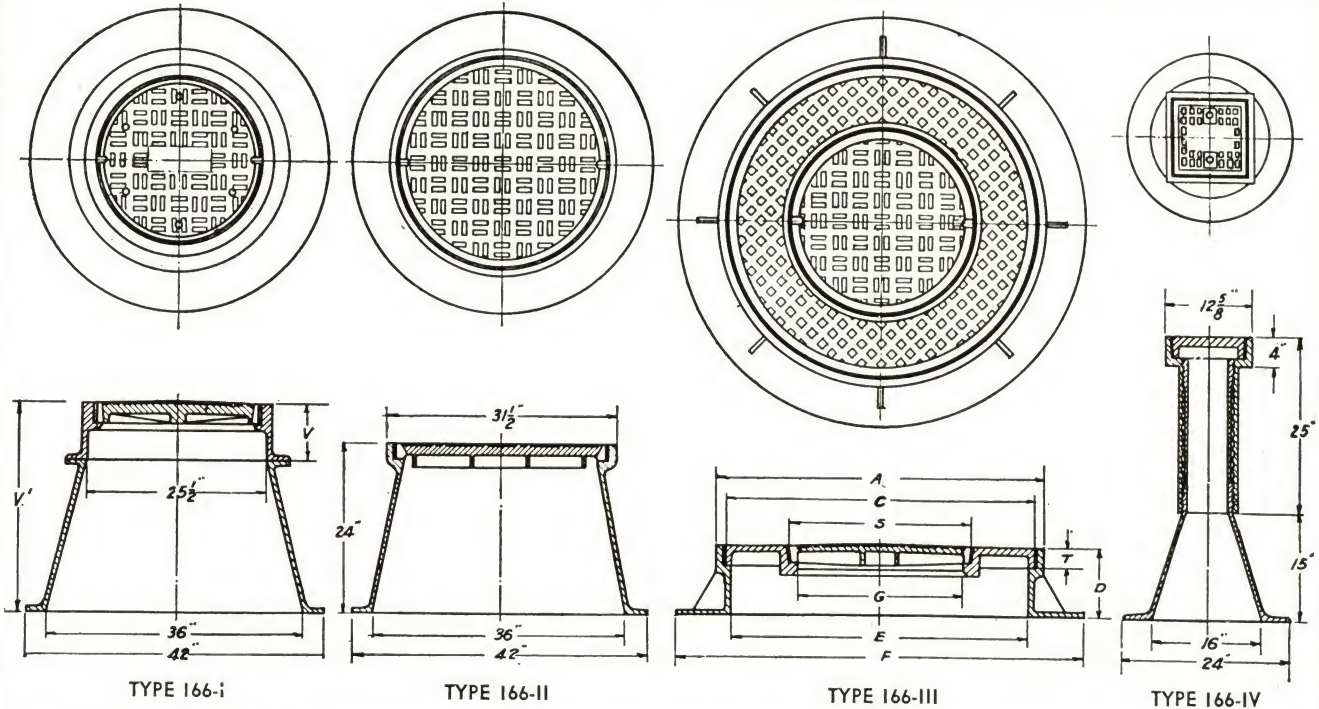
TYPE 195-P

TYPE AND CODE NO.	DIMENSIONS INCHES		TYPE AND CODE NO.	DIMENSIONS INCHES	
195-P	M	O	195-P	M	O
28510	10	15	28530	10	20
28511	12	18	28531	12	24
28512	14	21	28532	14	28
28513	16	24	28533	16	32
28514	18	27	28534	18	36
28515	20	30	28535	20	40
28516	22	33	28536	22	44
28517	24	36	28537	24	48
28518	26	39	28538	26	52
28519	28	42	28539	28	56
28520	30	45	28540	30	60
28521	32	48	28541	32	64
28522	34	51	28542	34	68
28523	36	54	28543	36	72
28524	38	57	28544	38	76
28525	40	60	28545	40	80
28526	42	63	28546	42	80
28527	44	66	28547	44	80
28528	46	69	28548	46	80
28529	48	72	28549	48	80

ROADWAY VALVE AND HYDRANT BOXES

Note: Type IV is adjustable in total height from 40 inches to 60 inches.

TYPE & CODE NO.	DIMENSIONS INCHES		TYPE & CODE NO.	TYPE & CODE NO.	DIMENSIONS—INCHES								TYPE & CODE NO.	
	V	VI			E	A	G	D	F	C	T	S		
166-I			166-II	166-III										166-IV
28601	6	30	28610	27876	36	41 $\frac{1}{2}$	21 $\frac{3}{8}$	8	48 $\frac{1}{2}$	37 $\frac{3}{4}$	1 $\frac{3}{8}$	23 $\frac{3}{4}$	25284	
28602	8	32		26223	42	46 $\frac{3}{4}$	24	10	58	44 $\frac{1}{2}$	3	26		
28603	9 $\frac{1}{2}$	33 $\frac{1}{2}$												
28604	12	36												



ROADWAY WATER-TIGHT FLOOR DRAINS

FLASHED TYPE 199-I

UNFLASHED TYPE 199-II

FLASHED TYPE

TYPE & CODE NO.		DIMENSIONS—INCHES						
199-I		A	B	D	H	P	C	T
BOTTOM OUTLET	SIDE OUTLET							
29000	29004	12	8 1/4	3 1/2	10	3	8	1 1/4
29001	29005	16	12 1/4	3 1/2	10	3	12	1 1/4
29002	29006	20	16 1/4	3 1/2	10	4	16	1 1/4
29003	29007	24	20 1/4	3 1/2	10	4	20	1 1/2

UNFLASHED TYPE

TYPE & CODE NO.		DIMENSIONS—INCHES						
199-II		A	B	H	P	C	T	
BOTTOM OUTLET	SIDE OUTLET							
29008	29012	12	8 1/2	10	3	8	1 1/4	
29009	29013	16	12 1/2	10	3	12	1 1/4	
29010	29014	20	16 1/2	10	4	16	1 1/4	
29011	29015	24	20 1/2	10	4	20	1 1/2	

Water-tight Floor Drains Type 199 are supplied with dirt bucket equipped with handle.

Both Type I and Type II are furnished with threaded outlets when specified.

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TYPE AND CODE NUMBER				DIMENSIONS INCHES		
199-I		199-II		A	B	C
With Wall Plate	Without Wall Plate	With Wall Plate	Without Wall Plate			
26705	26250	26713	26720	9 $\frac{1}{2}$	16	4 $\frac{3}{4}$
26706	26251	26714	26721	11 $\frac{1}{2}$	20 $\frac{1}{2}$	5 $\frac{1}{2}$
26707	26252	26715	26722	13 $\frac{1}{4}$	23 $\frac{1}{2}$	6 $\frac{1}{2}$
26708	26711	26716	26723	15 $\frac{1}{4}$	26	7 $\frac{1}{2}$
25134	26712	26717	26724	18	27	9
26709	25221	26718	26725	20	27	11
26710	25186	26719	26726	25 $\frac{1}{4}$	29 $\frac{1}{4}$	14 $\frac{3}{4}$

For Curb inlets with circular base, write for information.

[illegible]

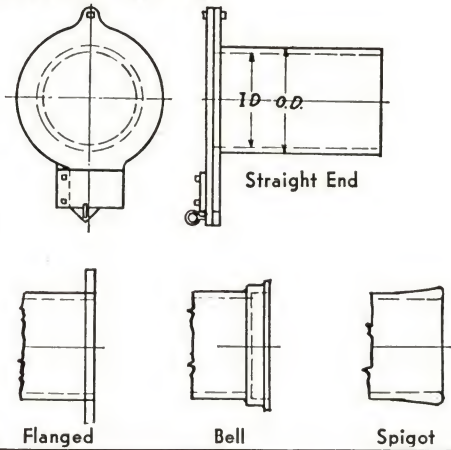
23

GUARANTEED GRAY CAST IRON FOR PERMANENCE

VALVES

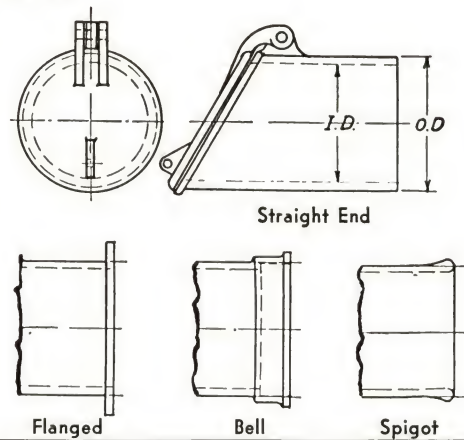
13
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SHEAR GATE



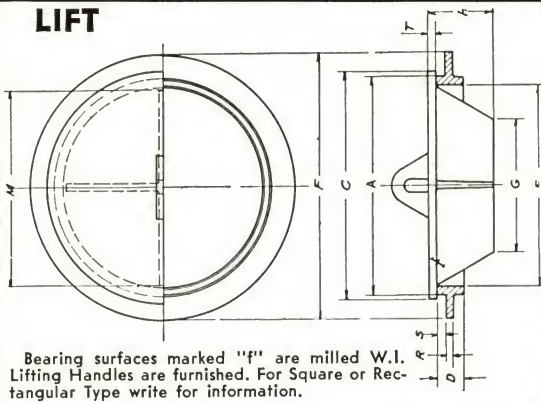
TYPE AND CODE NUMBER								DIMENS. INCHES	
189								I. D.	O. D.
MACHINED				MACHINED AND BRONZE LINER					
Straight	Flanged	Bell	Spigot	Straight	Flanged	Bell	Spigot		
26732	26733	26734	26735	26794	26795	26796	26797	7	7 ³ / ₄
26736	26737	26738	26739	28300	26701	26702	26703	8	8 ³ / ₄
26740	26741	26742	26743	26704	26705	26706	26707	10	10 ³ / ₄
26744	26745	26746	26747	26708	26709	26710	26711	12	13
26748	26749	26750	26751	26712	26713	26714	26715	14	15
26752	26753	26754	26755	26716	26717	26718	26719	16	17
26756	26757	26758	26759	26720	26721	26722	26723	18	19 ¹ / ₄
26760	26761	26762	26763	26724	26725	26726	26727	20	21 ¹ / ₄
26764	26765	26766	26767	26728	26729	26730	26731	24	25 ¹ / ₂
26768	26769	26770	26771	26732	26733	26734	26735	30	31 ¹ / ₂
26772	26773	26774	26775	26736	26737	26738	26739	36	37 ³ / ₄
26776	26777	26778	26779	26740	26741	26742	26743	42	44
26790	26791	26792	26793	27644	26745	26746	26747	48	50

FLAP



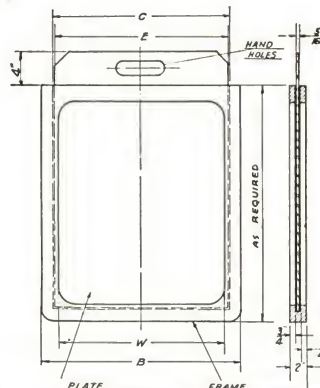
TYPE AND CODE NUMBER								DIMENS. INCHES	
191								I. D.	O. D.
MACHINED				MACHINED AND BRONZE LINER					
Straight	Flanged	Bell	Spigot	Straight	Flanged	Bell	Spigot		
26800	26801	26802	26803	26852	26853	26854	26855	7	7 ¹ / ₈
26804	26805	26806	26807	26856	26857	26858	26859	8	9
26808	26809	26810	26811	26860	26861	26862	26863	10	11
26812	26813	26814	26815	26864	26865	26866	26867	12	13
26816	26817	26818	26819	26868	26869	26870	26871	14	15 ¹ / ₄
26820	26821	26822	26823	26872	26873	26874	26875	16	17 ¹ / ₄
26824	26825	26826	26827	26876	26877	26878	26879	18	19 ¹ / ₄
26828	26829	26830	26831	26880	26881	26882	26883	20	21 ¹ / ₂
26832	26833	26834	26835	26884	26885	26886	26887	24	25 ¹ / ₂
26836	26837	26838	26839	26888	26889	26890	26891	30	31 ¹ / ₂
26840	26841	26842	26843	26892	26893	26894	26895	36	37 ³ / ₄
26844	26845	26846	26847	26896	26897	26898	26899	42	43 ³ / ₄
26848	26849	26850	26851	26920	26921	26922	26923	48	49 ³ / ₄

LIFT



TYPE AND CODE NO.	DIMENSIONS — INCHES										
185	E	F	R	S	D	A	C	G	H	M	T
26929	4	9	1 ¹ / ₂	1 ¹ / ₂	2	5	6	3	4 ¹ / ₂	4	5 ⁵ / ₈
26952	6	11	3 ³ / ₄	3 ³ / ₄	2	7	8	4	5	6	5 ⁵ / ₈
26928	8	13 ¹ / ₂	3 ³ / ₄	3 ³ / ₄	2 ³ / ₈	9	10 ¹ / ₂	5	5	8	5 ⁵ / ₈
26950	10	15	3 ³ / ₄	3 ³ / ₄	2 ³ / ₈	11	12 ¹ / ₂	6	5	10	5 ⁵ / ₈
26951	12	17	3 ³ / ₄	3 ³ / ₄	2 ³ / ₈	13	14 ¹ / ₄	6	6	11 ³ / ₄	5 ⁵ / ₈
26954	14	19	3 ³ / ₄	3 ³ / ₄	2 ³ / ₈	15 ¹ / ₄	16 ¹ / ₂	8	6	14	3 ³ / ₄
26953	16	21 ¹ / ₂	3 ³ / ₄	3 ³ / ₄	2 ¹ / ₂	17 ¹ / ₂	18 ¹ / ₂	10	6	16	3 ³ / ₄
26955	18	24	3 ³ / ₄	3 ³ / ₄	2 ¹ / ₂	19 ¹ / ₂	20 ¹ / ₂	12	6	18	3 ³ / ₄
26956	20	26	3 ³ / ₄	3 ³ / ₄	2 ¹ / ₂	21 ¹ / ₂	22 ¹ / ₂	14	6	20	3 ³ / ₄
26957	22	30	3 ³ / ₄	3 ³ / ₄	2 ¹ / ₂	23 ¹ / ₂	24 ¹ / ₂	16	6	22	3 ³ / ₄
26959	24	32	1	1	3	26	26 ¹ / ₂	18	6	24	3 ³ / ₄

SLIDE



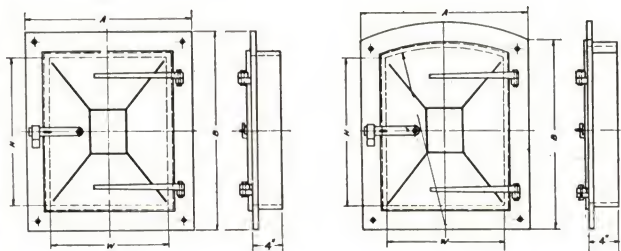
TYPE AND CODE NO.	DIMENSIONS — INCHES			
184	W	B	C	E
26960	6	10	7 ¹ / ₂	7 ¹ / ₄
26961	8	12	9 ¹ / ₂	9 ¹ / ₄
26962	10	14	11 ¹ / ₂	11 ¹ / ₄
26963	12	16	13 ¹ / ₂	13 ¹ / ₄
26964	14	18	15 ¹ / ₂	15 ¹ / ₄
26965	16	19	16 ¹ / ₂	16 ¹ / ₄
26966	16	20	17 ¹ / ₂	17 ¹ / ₄
26967	18	22	19 ¹ / ₂	19 ¹ / ₄
26968	20	24	21 ¹ / ₂	21 ¹ / ₄
26969	24	28	25 ¹ / ₂	25 ¹ / ₄
26970	30	34	31 ¹ / ₂	31 ¹ / ₄
26971	36	40	37 ¹ / ₂	37 ¹ / ₄
26972	42	46	43 ¹ / ₂	43 ¹ / ₄
26973	48	44	49 ¹ / ₂	49 ¹ / ₄

The frame is cast iron and the slide is boiler plate.

When E exceeds 18 in., two hand holes are provided.

CLEAN-OUT FRAMES AND DOORS

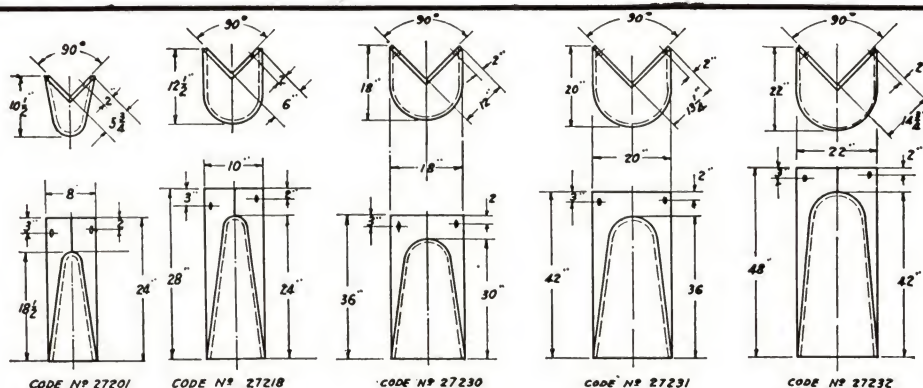
13
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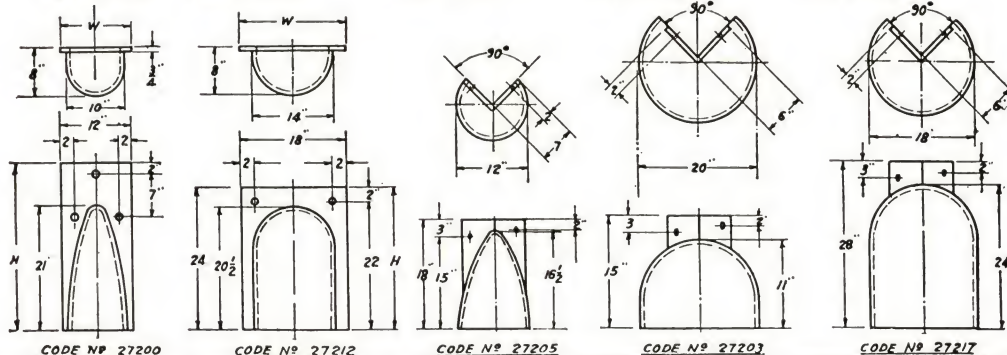
Bearing surfaces of frames and doors are milled to a true and even surface when specified. Where doors are subject to heavy impact cast steel doors are furnished, when specified.

TYPE AND CODE NO.	DIMENSIONS INCHES				TYPE AND CODE NO.	DIMENSIONS INCHES			
	W	H	A	B		W	H	A	B
179					179				
27010	4	6	10 $\frac{3}{4}$	12 $\frac{3}{4}$	27027	20	16	26 $\frac{3}{4}$	22 $\frac{3}{4}$
27011	6	8	12 $\frac{3}{4}$	14 $\frac{3}{4}$	27028	20	20	26 $\frac{3}{4}$	26 $\frac{3}{4}$
27012	8	10	14 $\frac{3}{4}$	16 $\frac{3}{4}$	27029	20	30	26 $\frac{3}{4}$	36 $\frac{3}{4}$
27013	10	10	16 $\frac{3}{4}$	16 $\frac{3}{4}$	27030	24	18	30 $\frac{3}{4}$	24 $\frac{3}{4}$
27014	10	12	16 $\frac{3}{4}$	18 $\frac{3}{4}$	27031	24	24	31	31
27015	12	8	18 $\frac{3}{4}$	14 $\frac{3}{4}$	27032	24	30	31	37
27016	12	10	18 $\frac{3}{4}$	16 $\frac{3}{4}$	27033	24	36	31	43
27017	12	12	18 $\frac{3}{4}$	18 $\frac{3}{4}$	27034	24	42	31	49
27018	12	16	18 $\frac{3}{4}$	22 $\frac{3}{4}$	27035	24	48	31	55
27043	12	18	18 $\frac{3}{4}$	24 $\frac{3}{4}$	27036	30	24	37	31
27019	15	9	21 $\frac{3}{4}$	15 $\frac{3}{4}$	27037	30	30	37	37
27020	16	16	22 $\frac{3}{4}$	22 $\frac{3}{4}$	27038	30	36	37	43
27021	16	10	22 $\frac{3}{4}$	16 $\frac{3}{4}$	27042	30	48	37	55
27022	16	20	22 $\frac{3}{4}$	26 $\frac{3}{4}$	27039	36	36	43	43
27023	16	24	22 $\frac{3}{4}$	30 $\frac{3}{4}$	27041	36	48	43	55
27024	18	18	24 $\frac{3}{4}$	24 $\frac{3}{4}$	27040	35	72	43	79
27025	18	24	24 $\frac{3}{4}$	30 $\frac{3}{4}$	27044	42	48	49	55
27026	18	30	24 $\frac{3}{4}$	36 $\frac{3}{4}$					

BOLTED WHEEL GUARDS

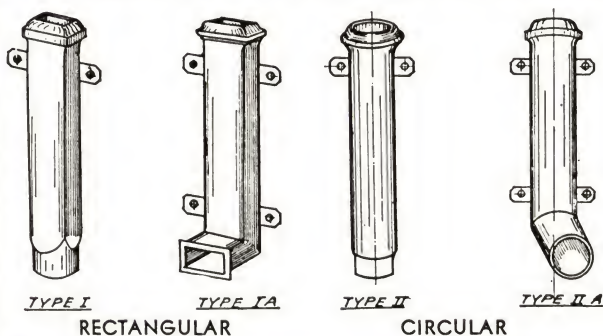


All guards are 1 in. thick; all holes are $\frac{7}{8}$ in. cored. Grout holes are furnished when specified.



Dimensions H and W on Types 27200 and 27212 may be varied as desired.

LEADER SHOES



RECTANGULAR TYPE 196-I * Without Offset				H T O U Z E	CIRCULAR TYPE 196-II * Without Offset				H T O U Z E
Size 2" x 3"	Size 3" x 4"	Size 4" x 5"			Size 3" Dia.	Size 4" Dia.	Size 5" Dia.	Size 6" Dia.	
3" Outlet	4" Outlet	4" Outlet			3" Outlet	4" Outlet	5" Outlet	6" Outlet	
28700	28708	28716	12		28724	28732	28740	28748	12
28701	28709	28717	18		28725	28733	28741	28749	18
28702	28710	28718	24		28726	28734	28742	28750	24
28703	28711	28719	30		28727	28735	28743	28751	30
28704	28712	28720	36		28728	28736	28744	28752	36
28705	28713	28721	48		28729	28737	28745	28753	48
28706	28714	28722	60		28730	28738	28746	28754	60
28707	28715	28723	72		28731	28739	28747	28755	72

* For Offset Type Add "A" to Code Number.

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GUARANTEED GRAY CAST IRON FOR PERMANENCE

**PRODUCTS NOT LISTED
IN THIS CATALOG**

**MANHOLE STEPS
MANHOLE DUST PANS
SCUPPERS
AIR VENTS FOR WATER LINES
SEWER MARKERS
AIR BRICKS
TRAFFIC BASES
RAILWAY BALLAST DRAINS
POST BASES
STOP-PLANK GROOVES
PATH BOXES
LOUVRES
BLAST GATES
MARINE CASTINGS**

**Mooring Posts
Bitts
Cleats
Chocks
Navy Anchors
Mushroom Anchors**

CATALOG NO. 109



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**THE CONSTRUCTION CASTINGS CORPORATION
THE ARMORED CONCRETE CORPORATION
FLOCKHART FOUNDRY COMPANY**

NEWARK, N. J.